

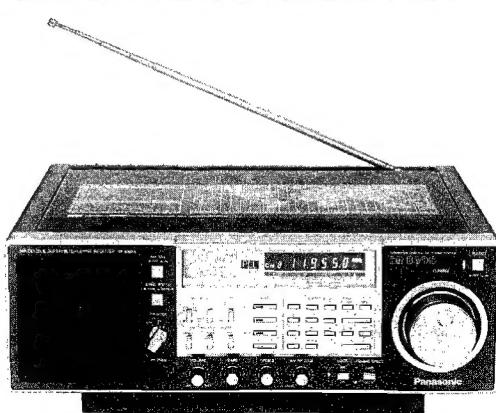
# Service Manual

Radio

## RF-B600LBS/LBE

FM-LW-MW-SW FULL-BAND COVERAGE  
COMMUNICATIONS RECEIVER

### Original



#### ■ SPECIFICATIONS

##### FM

Frequency Range:	87.5~108 MHz
IF:	10.7 MHz
Sensitivity:	2.5µV/75Ω (-3dB, Limit Sens) 2.5µV/75Ω (S/N 26dB)
Image Interference Ratio:	30dB (at 98MHz)
Two Signal Selectivity:	70dB (±400kHz)

##### Selectivity:

WIDE; ±3.5kHz (-6dB)  
±7kHz (-60dB)  
NARROW; ±1.5kHz (-6dB)  
±4kHz (-60dB)

##### Image Interference Ratio:

50dB (at 6MHz)  
Frequency Stability: Within 50Hz during any 60 minutes after warm-up time

##### LW

Frequency Range:	150~420kHz (2000~714m)
IF:	450kHz
Sensitivity:	S/N 6dB; 70µV/m (at 280kHz) S/N 26dB; 600µV/m (at 280kHz)
Selectivity:	WIDE; ±3.5kHz (-6dB) ±7kHz (-60dB) NARROW; ±1.5kHz (-6dB) ±4kHz (-60dB)

##### General

Speaker: 9cm (3½") PM dynamic speaker  
Output Power: 2.0W RMS (MAX.)  
Power Source: AC; 110~115/115~127/200~220/  
230~250V, 50/60Hz  
Battery; 12V (eight "D", UM-1 size batteries...for radio)  
4.5V (three "AA", UM-3 size batteries...for memory back-up)  
Car battery; optional car adaptor RP-952

##### MW

Frequency Range:	520~1610kHz (577~186m)
IF:	450kHz
Sensitivity:	S/N 6dB; 35µV/m (at 1,000kHz) S/N 26dB; 400µV/m (at 1,000kHz)
Selectivity:	WIDE; ±3.5kHz (-6dB) ±7kHz (-60dB) NARROW; ±1.5kHz (-6dB) ±4kHz (-60dB)

##### Power consumption; Jacks:

12W  
DC IN (13.2V)  
AC IN  
STAND BY φ3.5  
REC OUT φ3.5, 2.5kΩ  
5-pin DIN type  
EP/EXT SP φ3.5, 8Ω  
PHONES φ6, 8Ω

##### SW

Type:	Double Superheterodyne with PLL Synthesizer
Frequency Range:	1.6110~29.9999MHz (186~10m)
IF:	1st; 39.9~40.0MHz 2nd; 450kHz
Sensitivity (400Hz, 30% Modulation 50mW):	S/N 6dB; 1.2µV (50Ω) (at 6MHz) S/N 26dB; 10µV (50Ω) (at 6MHz)

##### EXT. ANT:

LW/MW/SW ANT (M-Type Connector)  
(50~75Ω)  
FM ANT (75Ω)  
SW ANT (HIGH IMP)  
LW/MW/SW ANT (LOW IMP)  
376mm(W)×122mm(H)×291mm(D)  
(14¾"×4¾"×11½")  
Weight: 4.6kg (10 lbs 2 oz) without batteries

Specifications are subject to change without notice.

# Panasonic

2371  
Matsushita Electric Trading Co., Ltd.  
P.O. Box 288, Central Osaka Japan

# LOCATION OF CONTROLS AND COMPONENTS

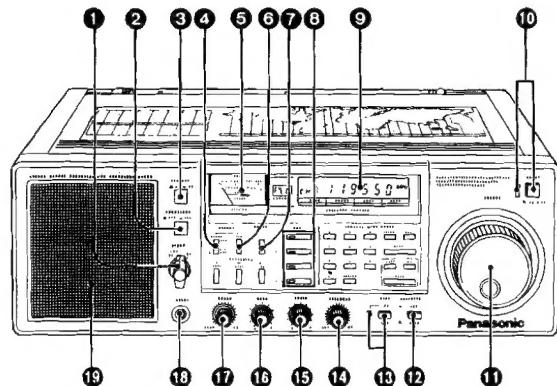


Fig. 1

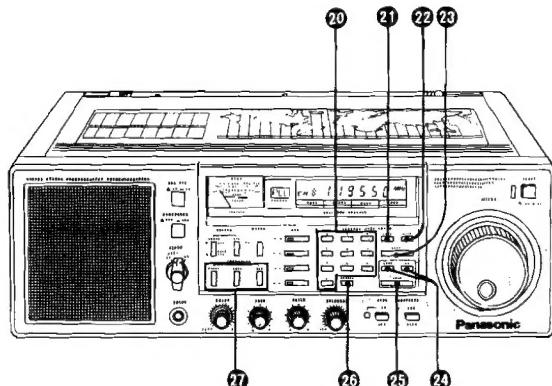


Fig. 2

**① AM Mode Selector (AM MODE)**

This is used for selecting between the LSB/CW, USB/CW, and AM modes.

**② AM Band Width Selector (BAND WIDTH)**

This function is used when receiving AM (LW, MW, SW) broadcasts, and normally is set in the "■ WIDE" position. When frequencies are very close together and signal mixing occurs, set to the "■ NARROW" position. When receiving LSB/CW or USB/CW broadcast, it is automatically set to the "■ NARROW" position.

**③ AM ANL (Automatic Noise Limiter) Switch (AM ANL)**

When receiving AM (LW, MW, SW) broadcasts, this switch is used to eliminate unwanted noise caused by automobile ignitions, etc.

**④ Indicator Selector (SELECTOR)**

This is used to select between the battery check, tuning, and signal strength indicator functions.

**■ BATT:** In this position, the meter indicates the battery consumption level for radio operation.

**■ TUNING/SIGNAL:** In this position, the meter indicates the frequency tuning accuracy and the signal strength.

**⑤ Battery Check/Tuning/Signal Indicator (INDICATOR)**

This indicates battery consumption level, tuning accuracy, and signal strength.

**⑥ Indicator Light Switch (LIGHT)**

When depressed to the "■ ON" position, meter illumination is turned on. Use this function at night when the meters are hard to read. When not in use, depress it to the "■ OFF" position.

**⑦ Display Switch (DISPLAY)**

When depressed to the "■ ON" position, the digital frequency display will appear. Depress it to "■ OFF" position to save the battery life.

**⑧ Band Select Keys/Indicators (BAND)**

These keys are used for selecting the desired band. When each key is pressed, its corresponding indicator will light.

**⑨ Digital Frequency Display (DIGITAL FREQUENCY DISPLAY)**

This display shows the frequency and the number of the memory channel.

**⑩ Radio Switch/Indicator (RADIO)**

When depressed to the "■ ON" position, the indicator lights, and power is supplied to the unit.

Always set the switch to the "■ OFF" position after use.

**⑪ Tuning Control (TUNING)**

This control dial is used for Manual Tuning.

**⑫ Fast/Slow Tuning Speed Selector (TUNING SPEED)**

This is used in the following way to select the tuning steps or increments:

Band Position	FM	LW/MW	SW
■ FAST	100 kHz	10 kHz	1 kHz
■ SLOW	50 kHz	1 kHz	100 Hz

(This function does not operate during SW Zone Auto Tuning.)

**⑬ Tuning Lock Switch/Indicator (LOCK)**

Usually set this switch to the "■ OFF" position. When set to the "■ ON" position, the indicator lights, the frequency presently being received will be locked and can not be drifted accidentally.

**⑭ AM RF Gain Control (AM RF GAIN)**

Normally, it is set in the "DX" position. When signals are weak and accompanied by distortion, or when signal mixing occurs, turn the control toward the "LOCAL" direction, and adjust to the position for optimum listening.

**⑮ Treble Control (TREBLE)****⑯ Bass Control (BASS)****⑰ Volume Control (VOLUME)****⑱ Headphone Jack (PHONES) 8Ω, φ 6**

Avoid listening to sound at high levels for prolonged periods. This may injure your ears.

**⑲ Built-in Speaker**

9cm (3½"), 8Ω

**⑳ Key (Number 1–9 are used for memory and 0 for frequencies)**

These keys are pressed to enter the frequency of a desired station, or to enter the memory channels.

**㉑ Memory Key (MEMORY)**

This key is pressed first when entering the frequency number of a desired station into the memory channel.

# ANTENNAS

**② Direct Key (DIRECT)**

This key is pressed before pressing in the frequency number of your desired station. Also, if you make a mistake when pressing the Number Keys, this key can be pressed to cancel the mistaken selections.

**③ Enter Key (ENTER)**

After entering the frequency number of your desired station, this key is pressed to begin receiving the broadcast of the station.

**④ Tuning Keys (DOWN, UP)**

These keys are pressed when performing SW Zone Auto Tuning.

**⑤ Stop Key (STOP)**

This key is pressed to stop the Memory Scan Tuning, Seek Tuning or Memory Scan Tuning.

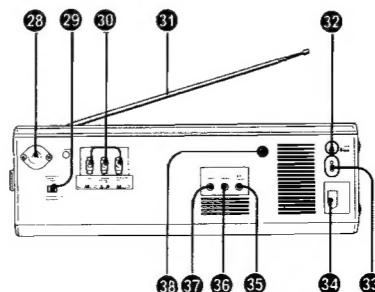


Fig. 3

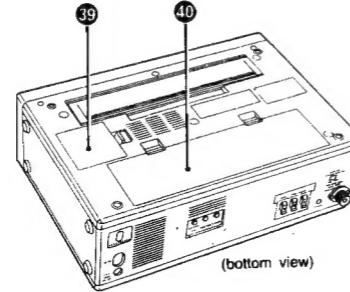


Fig. 4

**⑥ Decimal Point/Memory Scan Key  
(.•M-SCAN)**

This key is pressed for entering the decimal fraction portion of a frequency number and for playing back the memory channels.

When this key is pressed, the stations previously memorized in the memory channels will be played back for about 3 seconds each, moving in order from one channel frequency to the next (1CH→2CH.....9CH→1CH→2CH...). To cancel this operation, press either the Stop Key or one of the Memory Channel Keys.

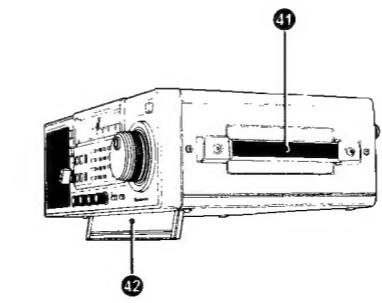


Fig. 5

**⑦ SW Zone Auto Tuning Selector  
(SW ZONE AUTO TUNING)**

When receiving short-wave broadcasts, these keys are used to tune up or down in 5 kHz increments within a ±150 kHz zone around a selected central frequency.

**"MANUAL"**: This allows you to perform tuning at every 5 kHz within the zone by one touch of the Tuning Keys.

**"SCAN"**: When one of the Tuning Keys is pressed once, the unit will scan for signals within the selected zone if any, playing each station for about 3 seconds before moving automatically to the next station in the zone. To stop this operation, press the Stop Key.

**"SEEK"**: When one of the Tuning Keys is pressed once, the unit will receive signals within the selected zone if any, and stop the Auto Tuning Function. To Stop the operation before receiving the signals, press the Stop Key.

**⑧ AM Low Impedance External Antenna Terminal (LW/MW/SW ANT 50–75Ω)**
**⑨ SW Antenna Selector (SW INT ANT/SW ANT)**

This is used for switching between the short-wave built-in and outdoor antennas, and for selecting HIGH or LOW impedance. When set to "LOW IMP", the telescopic antenna connection will be disconnected.

**⑩ External Antenna Terminals**
**(LW/MW/SW ANT · SW ANT · FM ANT)**

When reception is difficult with the built-in antenna alone, an optional outdoor antenna can be connected to these terminals.

**⑪ Telescopic Antenna**
**⑫ DC Input Jack (DC IN 13.2 V)**

This jack is used when connecting a car adaptor (RP-952, optional) for use with an automobile battery (DC 12V).

**⑬ AC Socket (AC IN ~)**

The accessory AC power cord is connected here when using the unit with household current.

**⑭ Voltage Selector (VOLTAGE SELECTOR)**
**⑮ External Speaker/Earphone Jack φ3.5**
**(D) IMP 8Ω ONLY**

When an optional external speaker or earphone is connected here, the built-in speaker is disconnected, allowing you to listen from the external speaker or earphone.

When connecting the Headphones, the earphone connected to this jack is automatically disconnected.

•Adjust the volume to lower level when using an earphone.

**⑯ Recording Output Jack (REC OUT) 2.5kΩ φ3.5**

If a tape recorder is connected to this jack, you can record radio broadcasts while listening to them at the same time. Depending on the kind of input jack on your tape recorder, the connection cord required may differ.

**Note:**

The output level during recording is fixed regardless of the position of this unit's Volume Control.

**⑰ Stand-by Jack (STAND BY) φ3.5**

When using the unit as a receiver of an amateur station by connecting the stand by jack of a transmitter to this jack, radio operation is automatically muted during reception.

**⑱ Recording Output Jack (REC OUT)**

May be connected to any external audio-equipment (such as a tape deck, record player, amplifier, etc.) with a DIN connector.

**⑲ Battery Case (For Memory Back-up)**

3 "AA" size batteries are inserted here.

**⑳ Battery Compartment (For Radio Power)**

8 "D" size (National UM-1 or equivalent) batteries are inserted here.

**㉑ Carrying Handle**
**㉒ Stand**

For easy operation, set the unit on the table by the stand.

**■ Built-in Antennas**
**FM:**

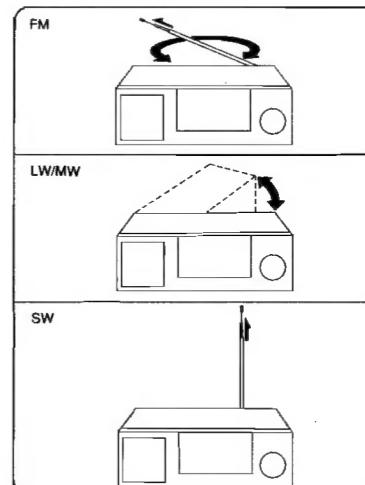
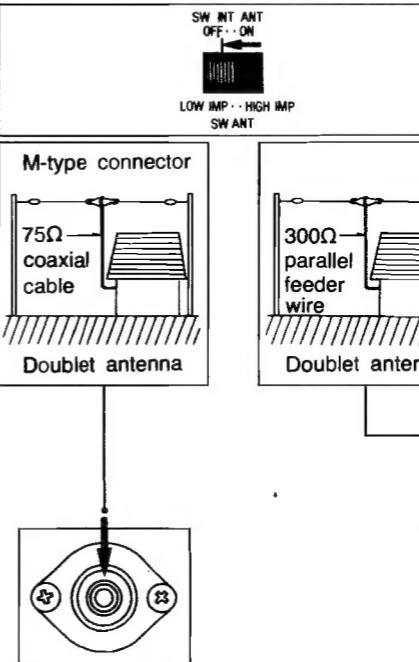
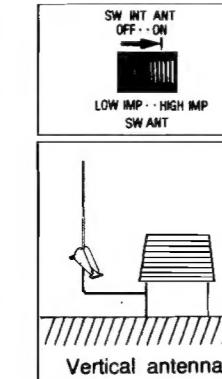
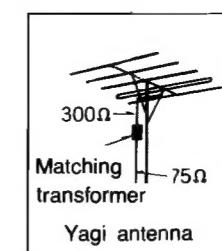
•Extend the Telescopic Antenna completely and adjust its length and angle for optimum reception.

**LW/MW:**

•The sensitive ferrite core antenna inside the set will provide excellent LW/MW reception in most areas. For optimum reception, turn the set in the direction which gives the best results, since the ferrite core antenna is directional.

**SW:**

•Extend the Telescopic Antenna completely, keeping it vertical.


**LW/MW/SW(LOW IMP)**

**SW(HIGH IMP)**

**FM**

**Note:**

An antenna for the SW bands can be constructed from a length of wire. A long length of wire is also suitable.

**•Connecting an M-type connector**

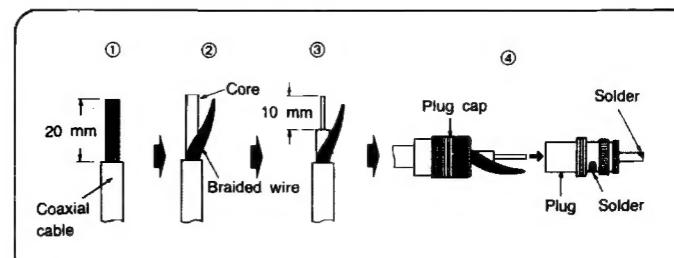
(Use 75Ω coaxial cable for connection.)

① Remove the cover of the Coaxial cable by about 20 mm.

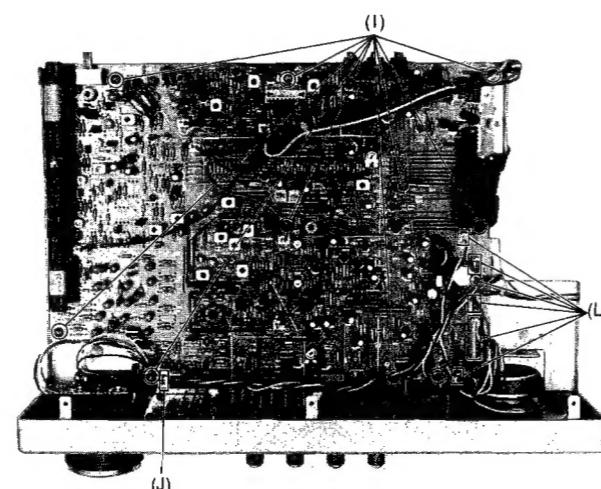
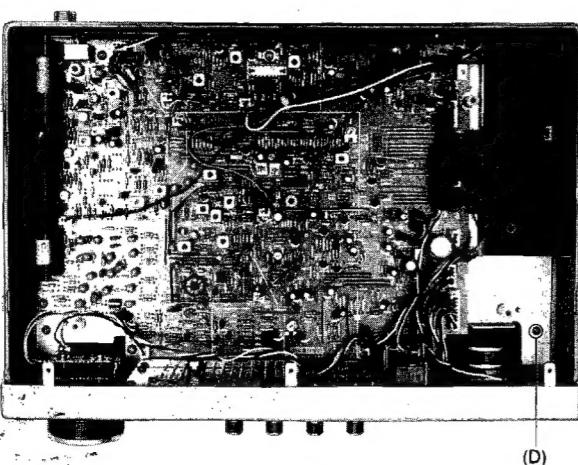
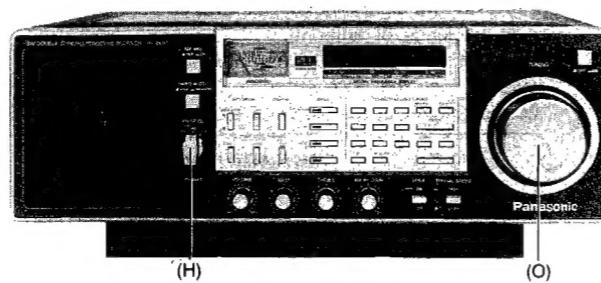
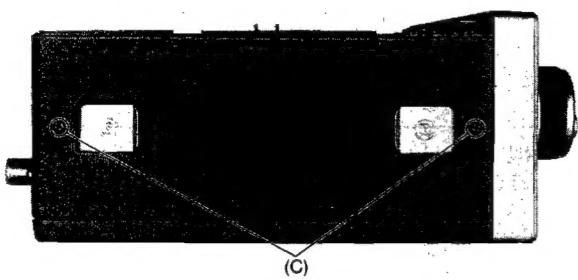
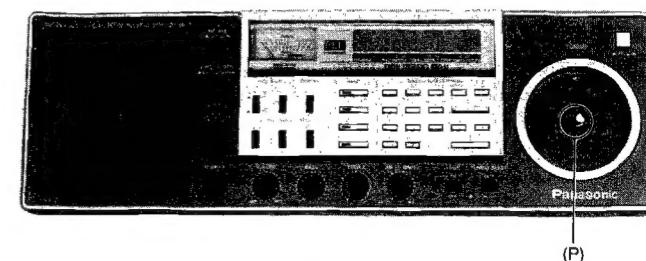
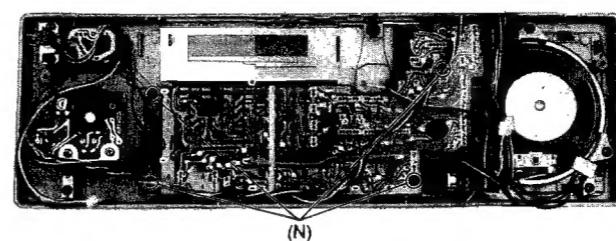
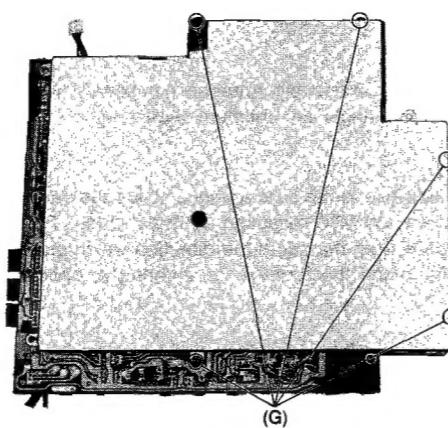
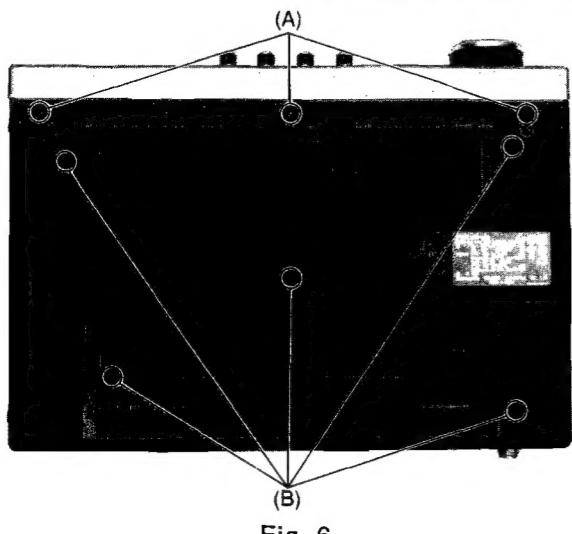
② Untie the Braided wire (shield wire) and separate it from the Core.

③ Remove the cover of the Core by about 10 mm.

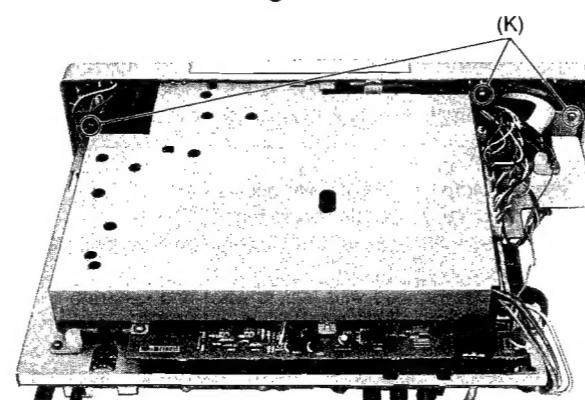
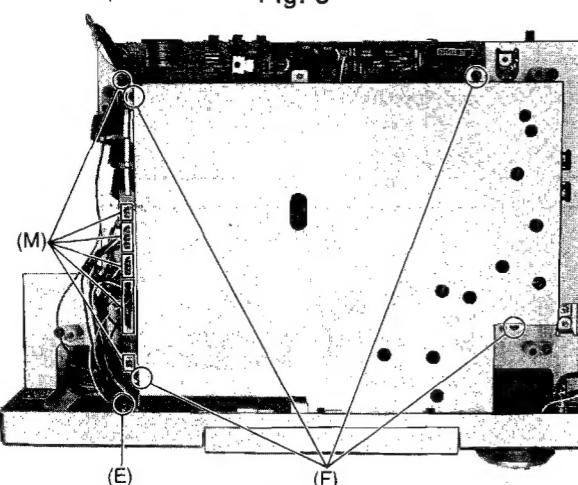
④ Solder the Core and Braided wire to the supplied M-type connector



## DISASSEMBLY INSTRUCTIONS

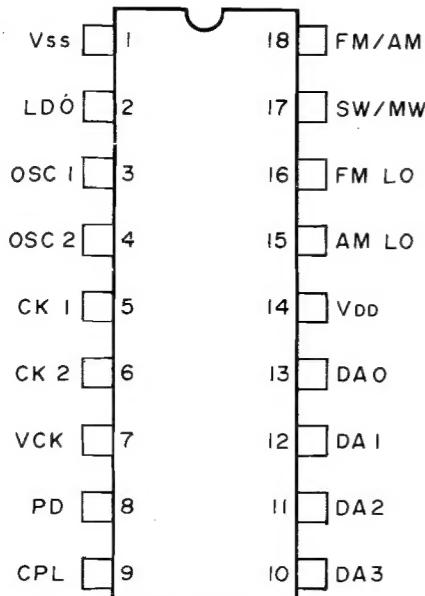


Ref. No.	Procedure	Shown in Fig. —.	To remove —.	Remove —.
1	1, 2	6	Bottom Cabinet	Screw (3×10) .....(A)×3
2		6		Screw (3×60) .....(B)×5
3	1~4	7	Upper Cabinet	Screw (3×10) .....(C)×2
4		8		Red screw (3×10) .....(D)×1
5	1~7	9	Digital Circuit Board	Screw (3×10) .....(E)×1
6		9		Screw (3×8) .....(F)×4
7		10		Screw (3×6) .....(G)×5
8	1~4, 8~10	11	Tuner Circuit Board	Knob .....(H)×1
9		12		Screw (3×8) .....(I)×9
10		12		Socket .....(J)×1
11	1~4, 8~13	13	Front Panel	Screw (3×10) .....(K)×3
12		12		Socket .....(L)×6
13		9		Socket .....(M)×6
14	1~4, 8, 10~14	14	Switch Circuit Board	Screw (3×10) .....(N)×4
15		11	Tuning Block	Knob .....(O)×1
16	1~4, 8, 10~13, 15, 16	15		Nut (Φ9) .....(P)×1



## PLL IC (IC308, 307): EACH TERMINAL FUNCTION & WAVEFORM

1) IC308 (MN6147) terminal view



2) Block diagram (IC308 MN6147)

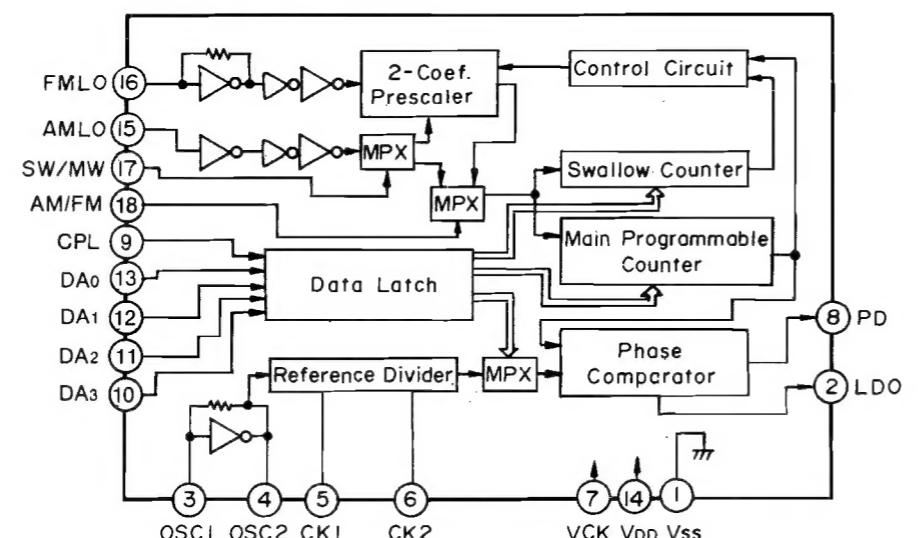


Fig. 17

Fig. 16

3) Explanation of each terminal (IC308 MN6147)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VSS	Grounding terminal.	10~13	DA3, DA2, DA1, DA0	Selected frequency data input terminals. Data is delivered from IC307 (pin 33—pin 36) according to the receiving frequency.
3, 4	OSC1, OSC2	Crystal oscillator connection terminals. A 4.5MHz crystal oscillator is connected.			
7	VCK	Clock battery backup connection terminal. A +5V power supply is connected.			
8	PD	Phase detector output terminal. At FM/SW setting, signal is delivered from this terminal to the active L.P.F. When the divided oscillation frequency is higher than the reference frequency, an "H" level signal is delivered and when it is lower than the reference frequency, an "L" level signal is delivered. When the frequency coincides with the reference frequency, it goes floating.	14	VDD	+5V power supply connection terminal.
9	CPL	Data latch clock signal input terminal. When the FM receiving frequency is altered, the latch signal is delivered from pin 40 of IC307.	16	FM LO	FM local oscillation signal input terminal.
		(FM Position T=5msec) 5.8V 0V	17, 18	SW/MW/LW/FM/AM	Band switching signal input terminals. Both pin 17 and pin 18 are connect to "H" level on RF-B600.

7

4) Digits and segment output voltage of IC307 (PLL controller)

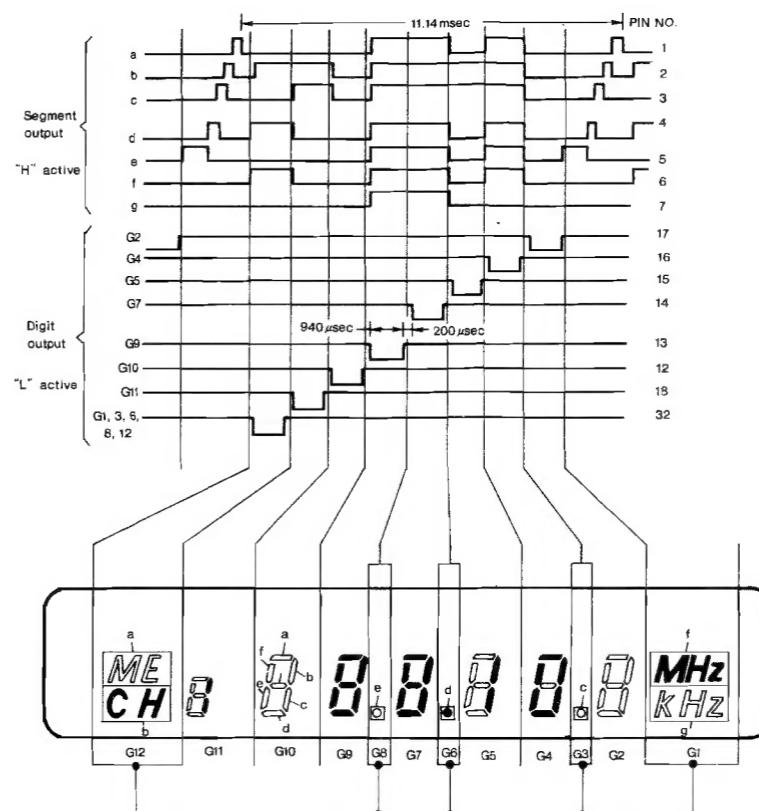


Fig. 18

5) IC307 (RVID1704C538) terminal view

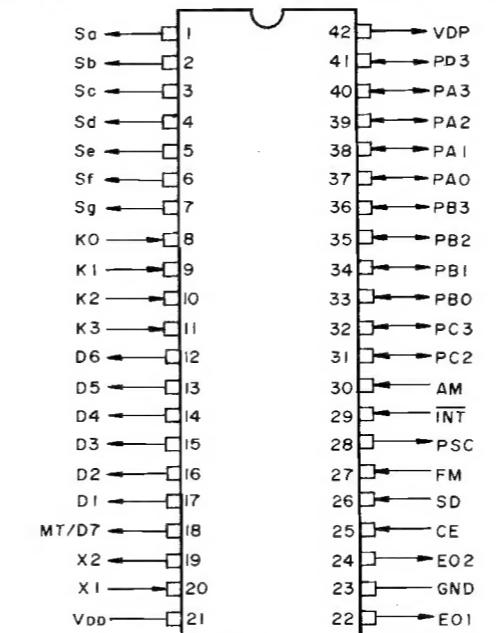


Fig. 19

6) Block diagram (IC307 RVID1704C538)

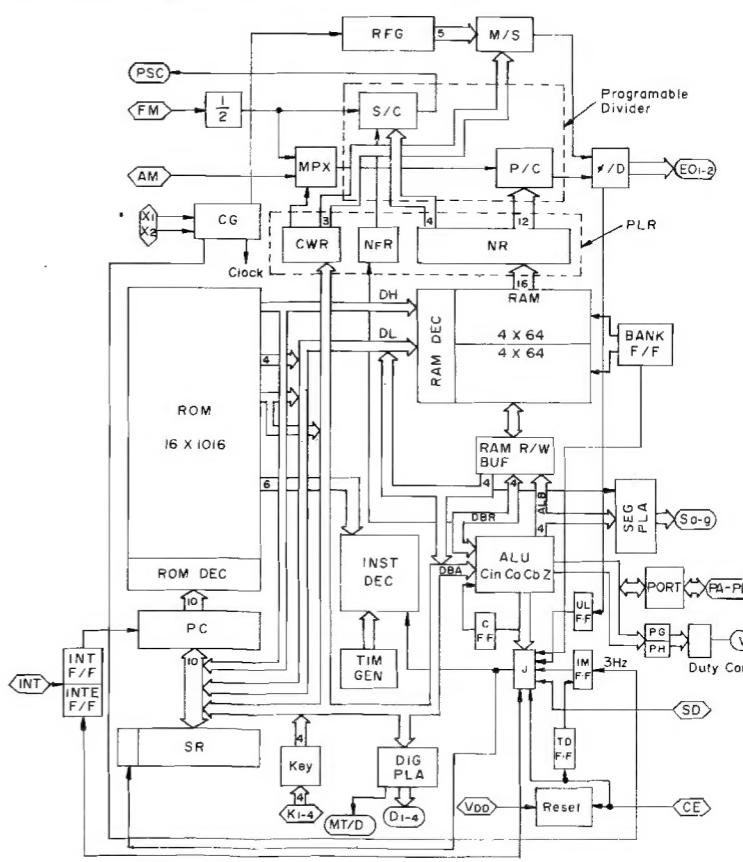


Fig. 20

Pin No.	1~7
8~11	
12~18	
19, 20	
21	
22, 24	

## ION &amp;

## 4) Digits and segment output voltage of IC307 (PLL controller)

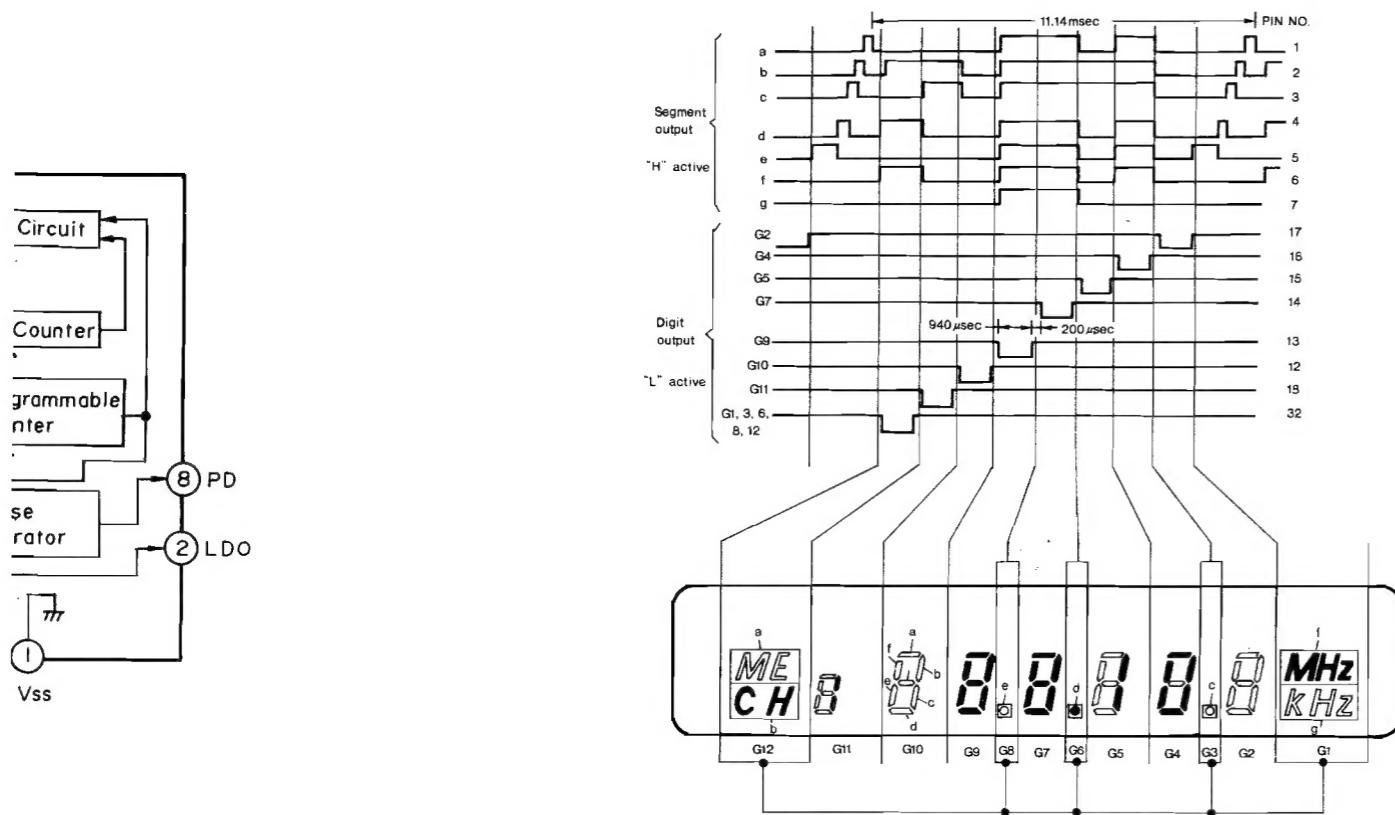


Fig. 18

## 5) IC307 (RVID1704C538) terminal view

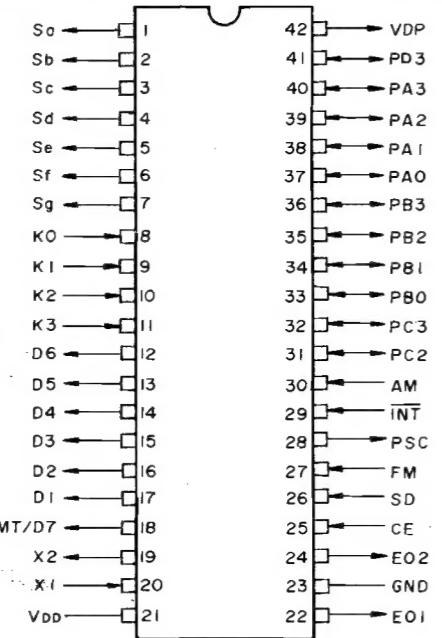


Fig. 19

## 6) Block diagram (IC307 RVID1704C538)

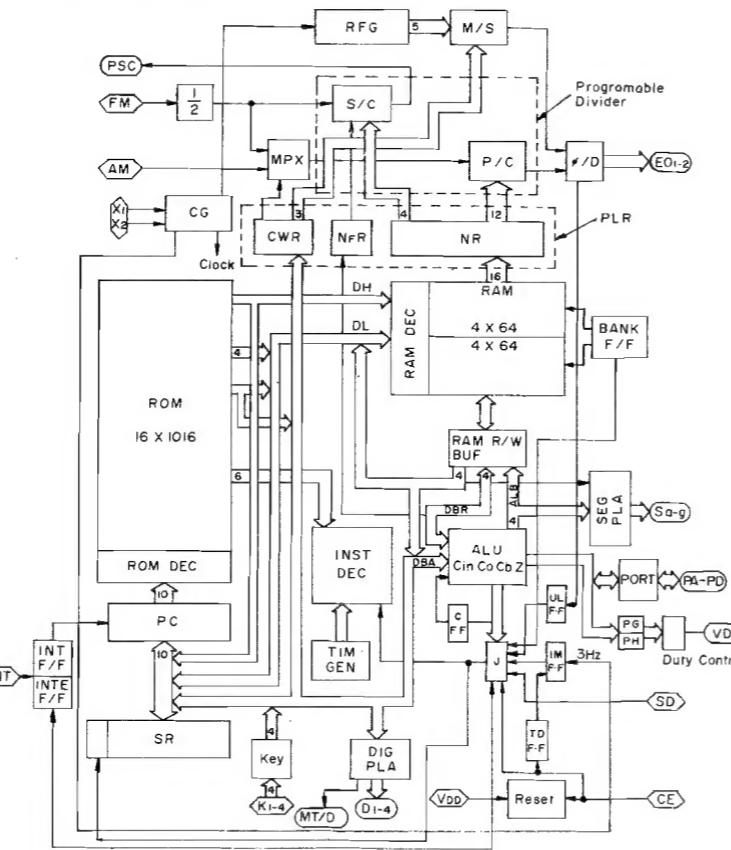


Fig. 20

## 7) Explanation of each terminal (IC307 RVID1704C538)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1~7	Sa, Sb, Sc, Sd, Se, Sf, Sg	Terminals to output segment signals for digital display and to output key return signals in key matrix system. Refer to the fig. 18 for operation.	29	INT	Interrupt request signal input terminal. Tuning lock ON/OFF is controlled by "H" or "L" level signal applied to this terminal. When the tuning lock switch (S301-2) is turned on, switching of Q348 and Q302 is activated and an "H" level signal is applied to pin 29(INT) to lock the tuning.
8~11	K0, K1, K2, K3	Terminals to input key return signals from an external key matrix. The outputs of segment terminals (Sa~Sg) are used for the key return signal source.	30	AM	AM local oscillation input terminal.
12~18	D6, D5, D4, D3, D2, D1, MT/D7	Terminals to output digit signals in a digital display (Digit output). Refer to the fig. 18 for operation.	31	PC2	Tuning dial gate pulse output terminal.
19, 20	X2, X1	Crystal oscillator connection terminals. A 4.5MHz crystal oscillator is connected.	32	PC3	Segment signal output terminal.
21	VDD	Power supply connection terminal. A +5V power supply is connected.	33~36, 40	PB0, PB1, PB2, PB3, PA3	4-bit input and output terminals. Used to output the data for PLL dividing ratio of IC307 (MN6147) and reference frequency designation. (When frequency is changed from 89.95MHz to 90.00MHz)
22, 24	E01, E02	Phase comparator output terminal. The signal for MW/LW is delivered from pin 22 (E01) to the active L.P.F (Q343 and 342), and the signal for SW is delivered from pin 24 (E02) to the active L.P.F (Q334, 335, 336 and 337). When the divided oscillation frequency is higher than the reference frequency, an "H" level signal is delivered and when it is lower than the reference frequency, an "L" level signal is delivered. When the frequency coincides with the reference frequency, it goes floating.	23	GND	Grounding terminal.
25	CE	Device operation selection signal input terminal. Select "H" level to make the device operative and select "L" level to make it inoperative. The memory is held.	37~39	PA0, PA1, PA2	Band setting input terminals. The following signals are input to the terminals when setting the receiving bands (LW/MW/FM/SW).
26	SD	Auto-tuning stop signal input terminal (SW only). When a station is tuned, detection voltage makes switching of Q303 and IC302 and sends an "H" level (+5V) signal to the pin 26 (SD). When a station is not tuned, it goes to "L" level (0V).	41	PD3	Muting output terminal. This terminal delivers an "H" level signal when switching bands or selecting the station directly.

	FM	LW	MW	SW
Pin 37 (PA0)	"L"	"H"	"L"	"H"
Pin 38 (PA1)	"L"	"H"	"H"	"L"
Pin 39 (PA2)	"L"	"H"	"H"	"L"

## BLOCK DIAGRAM

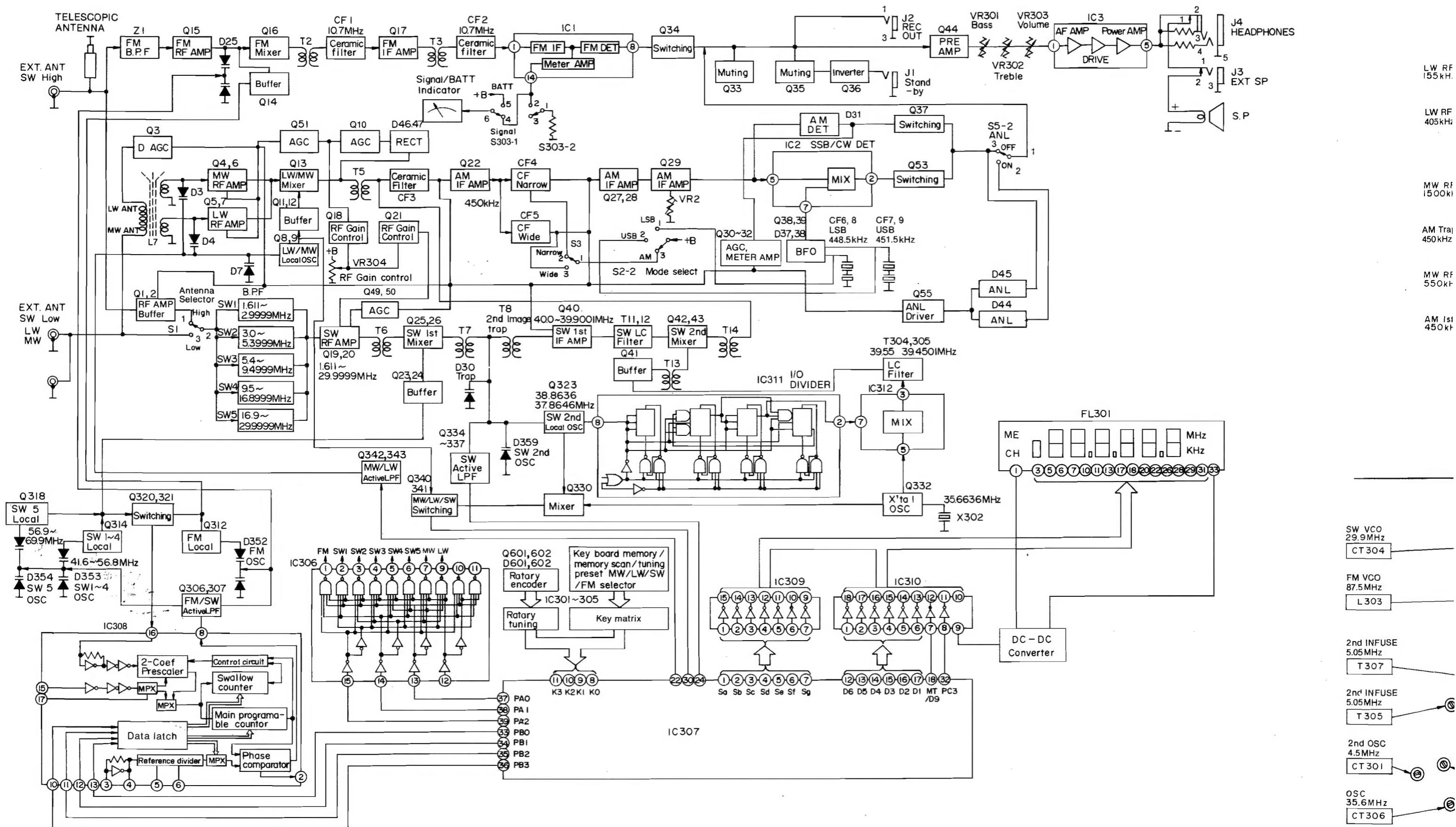


Fig. 21

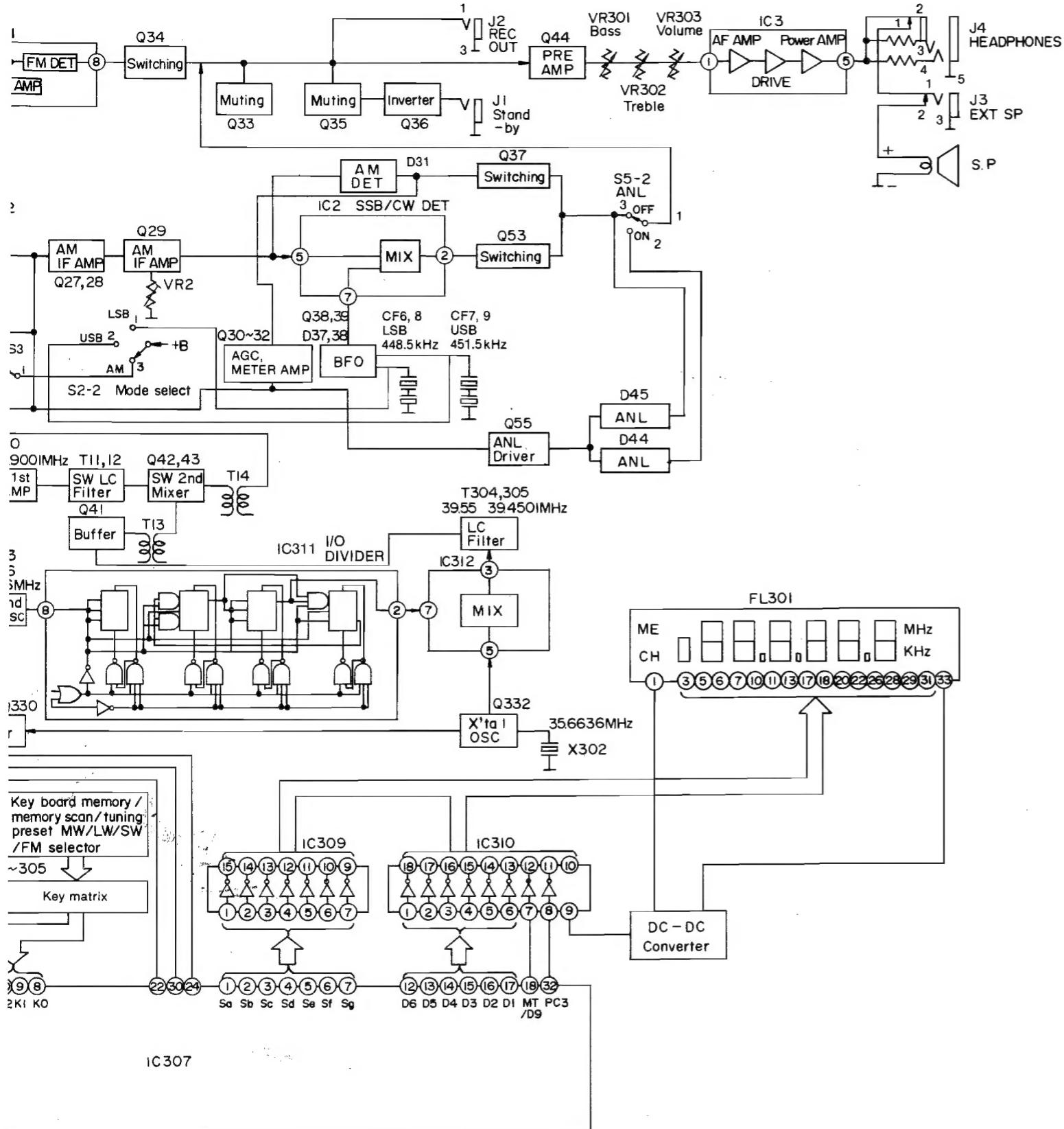
**BLOCK DIAGRAM**

Fig. 21

**■ ALIGNMENT POINT**

\* Please refer to Circuit Board and Wiring Connection Diagram which is located test point.

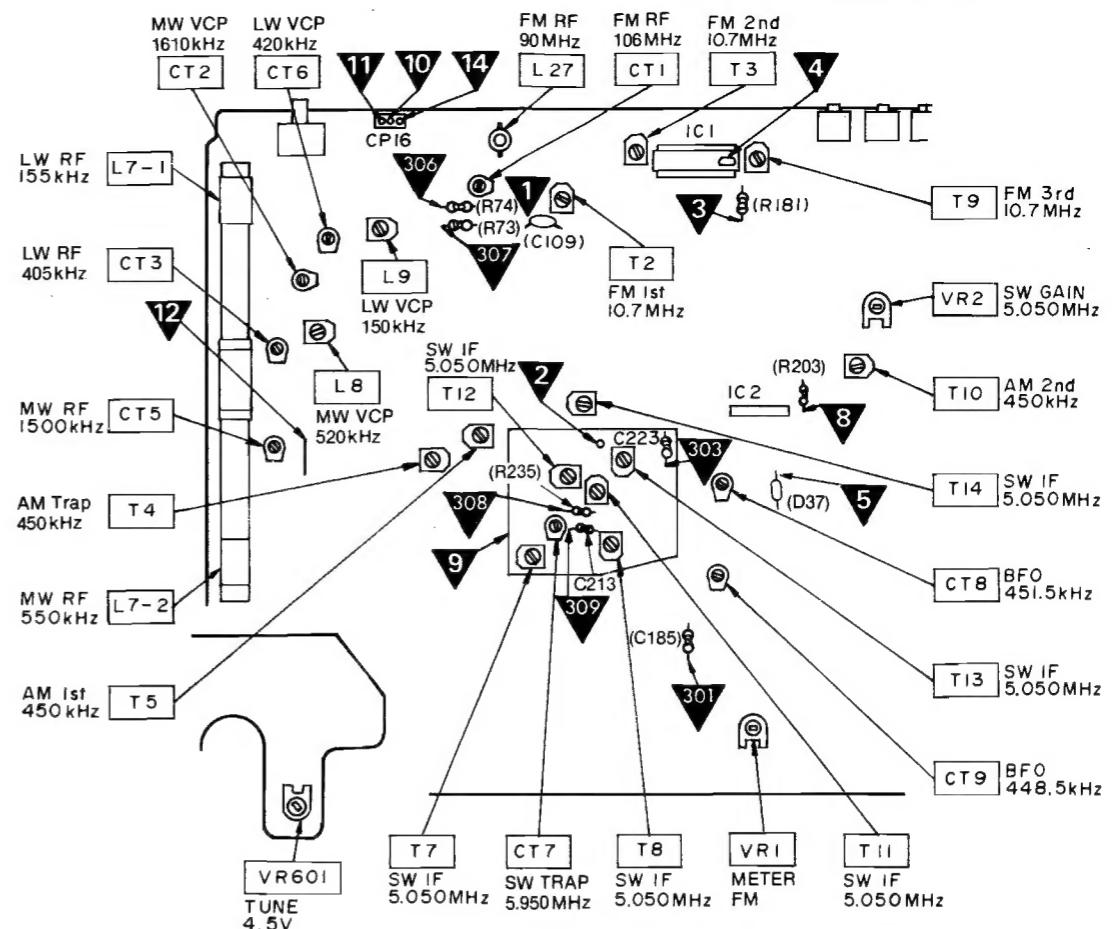
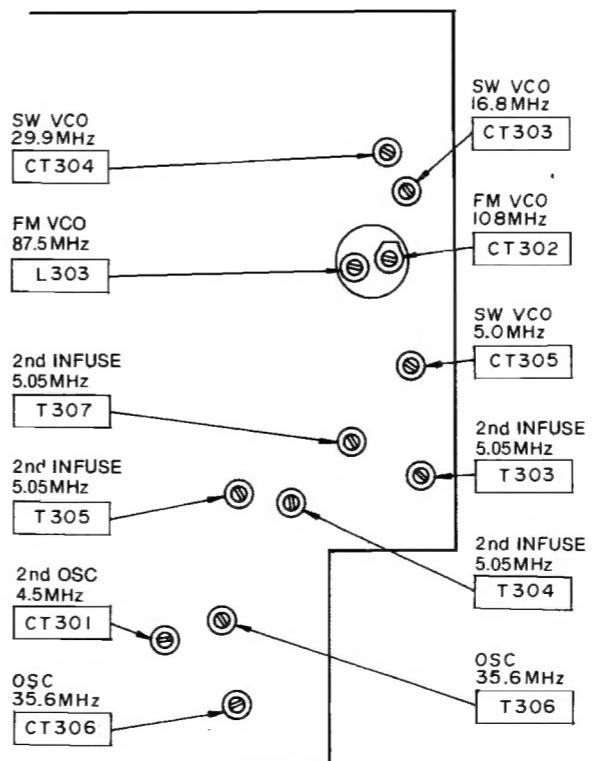


Fig. 22



Make sure that the bottom of diodes or transistors comes level to the printed circuit board.

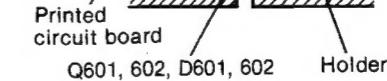


Fig. 24

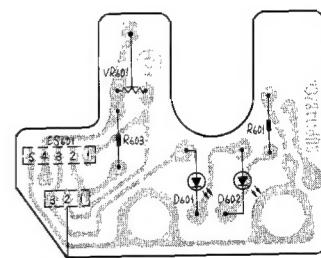


Fig. 25

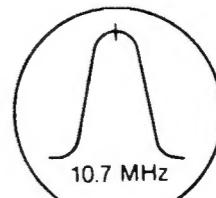


Fig. 26

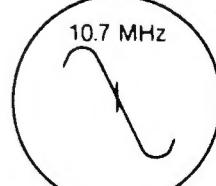


Fig. 27

# MEASUREMENTS AND ADJUSTMENTS

## ■ ALIGNMENT INSTRUCTION

CONTROL SETTING & PREPARATION	
<b>Notes:</b>	9. Set display switch to ON.
1. Set Radio switch to ON.	10. Set tuning lock switch to OFF.
2. Set SW ANT switch to LOW IMP.	11. Set SW zone auto tuning selector to MANUAL.
3. Set AM RF gain control to DX.	12. Memorize the following frequency.
4. Set volume control to MAX.	Ch1.....5.050MHz Ch6.....550kHz
5. Set bass and treble control to "0".	Ch2.....150kHz Ch7.....1500kHz
6. Set AM ANL switch to OFF.	Ch3.....420kHz Ch8.....90.0MHz
7. Set band width switch to WIDE.	Ch4.....155kHz Ch9.....106.0MHz
8. Set indicator switch to TUNING/SIGNAL.	Ch5.....405kHz
EQUIPMENT REQUIRED	
1. Frequency counter.	4. DC digital voltmeter.
2. Oscilloscope (Dual dimension).	5. Ampere meter.
3. RF voltmeter.	6. Signal generator.

## ■ TUNING BLOCK ALIGNMENT

**Note:** When inserting the diodes (D601, 602) or transistors (Q601, 602), refer to fig. 24.

OSCILLOSCOPE		ADJUSTMENT	REMARKS
CH1	CH2		
CS24 ① .....(+) ④, ⑤...(-)	CS24 ② .....(+) ④, ⑤...(-)	D601, Q601	(1) Set Oscilloscope to CH2. (2) Input DC 5V and adjust the oscilloscope for 5V. (3) Turn the tuning shaft and read the highest and lowest voltage. (4) If voltage can not be set to the following value, adjust the space between D601 and Q601. VH (highest voltage).....More than 4.0V VL (lowest voltage) .....Less than 0.9V When VH can not be set...Shorten the space between D601 and Q601. When VL can not be set...Lengthen the space between D601 and Q601.
"	"	VR601	(1) Set oscilloscope to CH1. (2) Input DC 5V and adjust the oscilloscope for 5V. (3) Turn the tuning shaft and adjust for highest voltage. (4) Adjust VR601 for 4.5V reading on oscilloscope.
"	"	—	(1) Turn the tuning shaft and read the point where CH1 and CH2 are same level (highest & lowest). (2) If voltage can not be set to the following value, readjust step "1". VH.....More than 3.6V VL .....Less than 1.4V

## ■ FM IF AND AM IF ALIGNMENT

BAND	IF SWEEP SCOPE		ADJUSTMENT	REMARKS
	OUTPUT	INPUT		
<b>FM-IF ALIGNMENT</b>				
FM	▼...(+)	▼...(+)	T2 (1st IFT)	Adjust for maximum amplitude. (Refer to fig. 26).
	▼...(+)	▼...(-)	T9 (3rd IFT)	Adjust for maximum amplitude. (Refer to fig. 27).
<b>AM-IF ALIGNMENT</b>				
MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	▼...(+)	T5 (1st IFT)	Adjust for maximum output.
	"	"	T4	Adjust for minimum output.

**Note:** Confirm that center frequency do not drift too much when band width switch is changed.

## ■ BFO ALIGNMENT

BAND	FREQUENCY COUNTER	ADJUSTMENT	REMARKS
SW	▼...(+) ▼...(-)	CT8	(1) Set AM mode switch to USB. (2) Adjust CT8 for $451.5 \pm 0.3\text{kHz}$ reading on frequency counter.
		CT9	(1) Set AM mode switch to LSB. (2) Adjust CT9 for $448.5 \pm 0.3\text{kHz}$ reading on frequency counter.

## ■ 4.5MHz, 35.6636MHz OSC, 2nd INFUSE, SW VCO AND FM VCO ALIGNMENT

BAND	DISPLAY SETTING	DC DIGITAL VOLTMETER	RF VOLTMETER	FREQUENCY COUNTER	ADJUSTMENT	REMARKS
<b>4.5MHz OSCILLATOR ALIGNMENT</b>						
SW	5.000MHz	—	—	▼...(+) ▼...(-)	CT301	Adjust CT301 for $4.5000\text{MHz} \pm 20\text{Hz}$ reading on frequency counter.
<b>35.6636MHz OSCILLATOR LEVEL ADJUSTMENT</b>						
SW	2.000MHz	—	▼...(+) ▼...(-)	—	T306	Adjust T306 to a point which is 0.5dB below the value at which the peak value was shown on the RF voltmeter.
<b>2nd INFUSE ALIGNMENT</b>						
SW	5.05MHz	—	▼...(+) ▼...(-)	—	T303~305, 307	Adjust T305, 304, 303, 307 for maximum reading on RF voltmeter.
<b>35.6636MHz OSCILLATOR FREQUENCY ALIGNMENT</b>						
SW	5.000MHz	—	—	▼...(+) ▼...(-)	CT306	Adjust CT306 for $39.550\text{MHz} \pm 300\text{Hz}$ reading on frequency counter.
<b>SW VCO ALIGNMENT</b>						
SW	29.9MHz	▼...(+) ▼...(-)	—	—	CT304	Adjust CT304 for $8.0V \pm 0.2V$ reading on DC digital voltmeter.
	16.8MHz	"	—	—	CT303	Adjust CT303 for $8.2V \pm 0.2V$ reading on DC digital voltmeter.
	5.0MHz	▼...(+) ▼...(-)	—	—	CT305	Adjust CT305 for $9.0V \pm 0.2V$ reading on DC digital voltmeter.
<b>FM VCO ALIGNMENT</b>						
FM	87.5MHz	▼...(+) ▼...(-)	—	—	L303	Adjust L303 for $1.0V \pm 0.1V$ reading on DC digital voltmeter.
	108MHz	"	—	—	CT302	Adjust CT302 for $8.0V \pm 0.2V$ reading on DC digital voltmeter.

## ■ SW IF, IMAGE TRAP AND GAIN ALIGNMENT

BAND	SIGNAL GENERATOR		DISPLAY SETTING	ADJUSTMENT	REMARKS
	CONNECTION	FREQUENCY			
<b>SW IF ALIGNMENT</b>					
SW	▼...(+) ▼...(-)	5.050MHz	5.050MHz (Ch1)	T7, 8, 11~14	Adjust T7, 8, 11~14 for maximum output.
<b>SW IMAGE TRAP ALIGNMENT</b>					
SW	"	5.950MHz	5.050MHz (Ch1)	CT7	Adjust CT7 for minimum output.
<b>SW GAIN ALIGNMENT</b>					
SW	"	5.050MHz (18dB)	5.050MHz (Ch1)	VR2	Adjust VR2 so that the signal meter indicates "9".

VCP VOL	
BAND	
LW	
MW	
FM	

### ■ BFO ALIGNMENT

BAND	FREQUENCY COUNTER	ADJUSTMENT	REMARKS	
SW	5...(+) 9...(-)	CT8	(1) Set AM mode switch to USB. (2) Adjust CT8 for $451.5 \pm 0.3\text{kHz}$ reading on frequency counter.	
		CT9	(1) Set AM mode switch to LSB. (2) Adjust CT9 for $448.5 \pm 0.3\text{kHz}$ reading on frequency counter.	

### ■ 4.5MHz, 35.6636MHz OSC, 2nd INFUSE, SW VCO AND FM VCO ALIGNMENT

BAND	DISPLAY SETTING	DC DIGITAL VOLTMETER	RF VOLTMETER	FREQUENCY COUNTER	ADJUSTMENT	REMARKS
<b>4.5MHz OSCILLATOR ALIGNMENT</b>						
SW	5.000MHz	—	—	307...(+) 9...(-)	CT301	Adjust CT301 for $4.5000\text{MHz} \pm 20\text{Hz}$ reading on frequency counter.

#### 35.6636MHz OSCILLATOR LEVEL ADJUSTMENT

SW	2.000MHz	—	304...(+) 305...(-)	—	T306	Adjust T306 to a point which is 0.5dB below the value at which the peak value was shown on the RF voltmeter.
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#### 2nd INFUSE ALIGNMENT

SW	5.05MHz	—	303...(+) 9...(-)	—	T303~305, 307	Adjust T305, 304, 303, 307 for maximum reading on RF voltmeter.
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#### 35.6636MHz OSCILLATOR FREQUENCY ALIGNMENT

SW	5.000MHz	—	305...(+) 9...(-)	CT306	Adjust CT306 for $39.550\text{MHz} \pm 300\text{Hz}$ reading on frequency counter.
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#### SW VCO ALIGNMENT

SW	29.9MHz	307...(+) 306...(-)	—	—	CT304	Adjust CT304 for $8.0\text{V} \pm 0.2\text{V}$ reading on DC digital voltmeter.
	16.8MHz	—	—	—	CT303	Adjust CT303 for $8.2\text{V} \pm 0.2\text{V}$ reading on DC digital voltmeter.
	5.0MHz	306...(+) 9...(-)	—	—	CT305	Adjust CT305 for $9.0\text{V} \pm 0.2\text{V}$ reading on DC digital voltmeter.

#### FM VCO ALIGNMENT

FM	87.5MHz	307...(+) 306...(-)	—	—	L303	Adjust L303 for $1.0\text{V} \pm 0.1\text{V}$ reading on DC digital voltmeter.
	108MHz	—	—	—	CT302	Adjust CT302 for $8.0\text{V} \pm 0.2\text{V}$ reading on DC digital voltmeter.

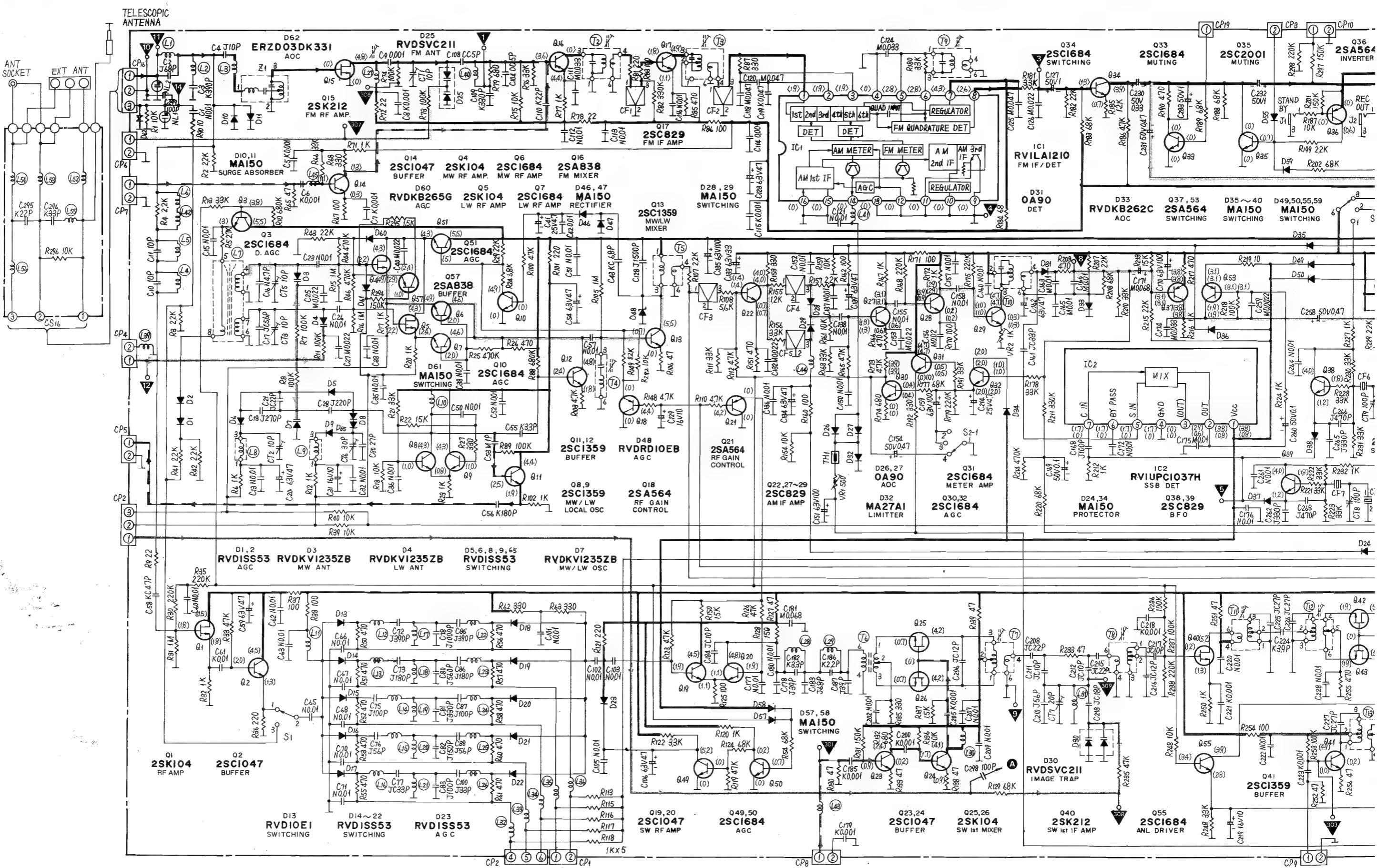
### ■ SW IF, IMAGE TRAP AND GAIN ALIGNMENT

BAND	SIGNAL GENERATOR CONNECTION	DISPLAY SETTING	ADJUSTMENT	REMARKS	
<b>SW IF ALIGNMENT</b>					
SW	10...(+) 11...(-)	5.050MHz	5.050MHz (Ch1)	T7, 8, 11~14	Adjust T7, 8, 11~14 for maximum output.
<b>SW IMAGE TRAP ALIGNMENT</b>					
SW	—	5.950MHz	5.050MHz (Ch1)	CT7	Adjust CT7 for minimum output.
<b>SW GAIN ALIGNMENT</b>					
SW	—	5.050MHz (18dB)	5.050MHz (Ch1)	VR2	Adjust VR2 so that the signal meter indicates "9".

### ■ VCP VOLTAGE, LW/MW RF, FM RF AND METER ALIGNMENT

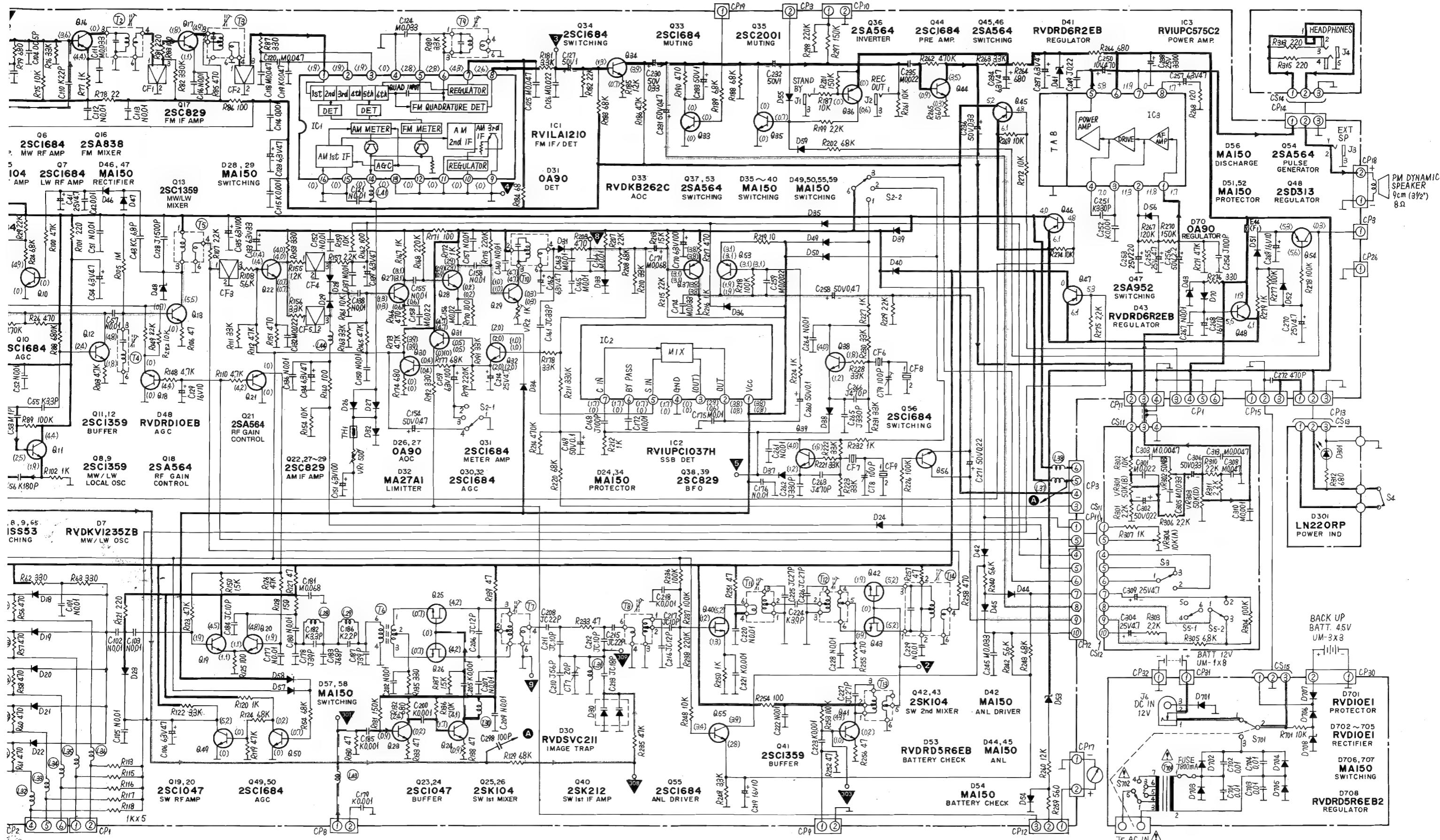
BAND	SIGNAL GENERATOR CONNECTION	DISPLAY SETTING	DC DIGITAL VOLTMETER	ADJUSTMENT	REMARKS
<b>VCP VOLTAGE ALIGNMENT</b>					
LW	—	—	150kHz (Ch2)	12...(+) 9...(-)	L9
	—	—	420kHz (Ch3)	—	CT6
MW	—	—	520kHz	—	L8
	—	—	1610kHz	—	CT2
<b>LW/MW RF ALIGNMENT</b>					
LW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	155kHz (Ch4)	155kHz (Ch4)	—	L7-1
	—	405kHz (Ch5)	—	—	CT3
MW	—	550kHz (Ch6)	—	—	L7-2
	—	1,500kHz (Ch7)	—	—	CT5
<b>FM RF ALIGNMENT</b>					
FM	10...(+) 9...(-) (Through FM dummy antenna 75Ω)	90MHz (Ch8)	90MHz (Ch8)	—	L27
	—	106MHz (Ch9)	—	—	CT1
<b>METER ALIGNMENT</b>					
FM	—	90MHz (100dB)	90MHz (Ch8)	—	VR1
					Adjust VR1 so that the tuning meter indicates more than "8".

## SCHEMATIC DIAGRAM (TUNER) MODEL RF-B600LBS/LBE



## SCHEMATIC DIAGRAM (TUNER) MODEL RF-B600LBS/LBE

AM OSC, Signal, LW, MW, Vcap Signal,  
 FM Vcap Signal, + Voltage Line, FM Signal,  
 AM Signal, FM VCO Signal, SW Vcap Signal,  
 SW1~5 OSC Signal



J5 AC IN  
 110~115 / 115~127 / 200~220  
 230~250V 50/60Hz

## CIRCUIT BOARD (TUNER) MC

## Notes:

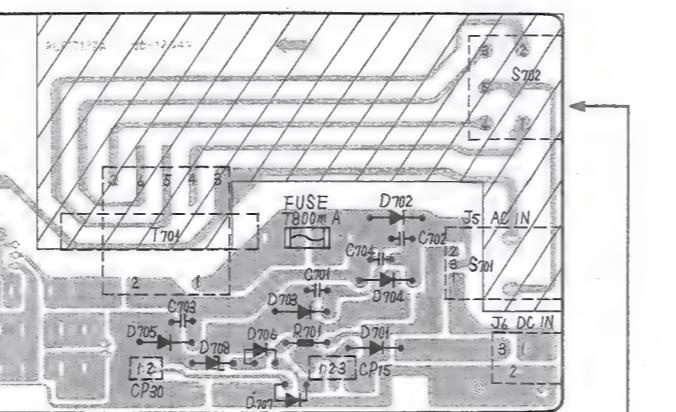
1. S1: SW antenna switch in "HIGH IMP" position.  
(1...HIGH IMP, 3...LOW IMP)
2. S2-1, S2-2: AM mode switch in "AM" position.  
S2-1 (4...AM, 3...USB, 2...LSB)  
S2-2 (3...AM, 2...USB, 1...LSB)
3. S3: Band width switch in "WIDE" position.  
(3...WIDE, 2...NARROW)
4. S4: Radio switch in "OFF" position.
5. S5: AM ANL switch in "OFF" position.  
(2...ON, 3...OFF)
6. S701: AC/DC switch in "DC" position.
7. S702: Voltage selector.
8. VR1: Meter adjustment VR.
- VR2: SW gain adjustment VR.
9. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.  
< >...FM, ( )...LW/MW, [ ]...SW
10. Battery current No signal ..... 200mA (MW)  
Maximum output ..... 680mA (SW)

## 11. Important safety notice

Components identified by mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

12. Please replace three diodes (D3, D4, D7) at the same time, when replacing diode (D3, D4 or D7).

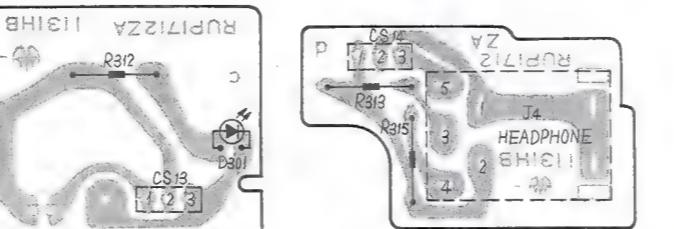
## POWER SOURCE CIRCUIT BOARD



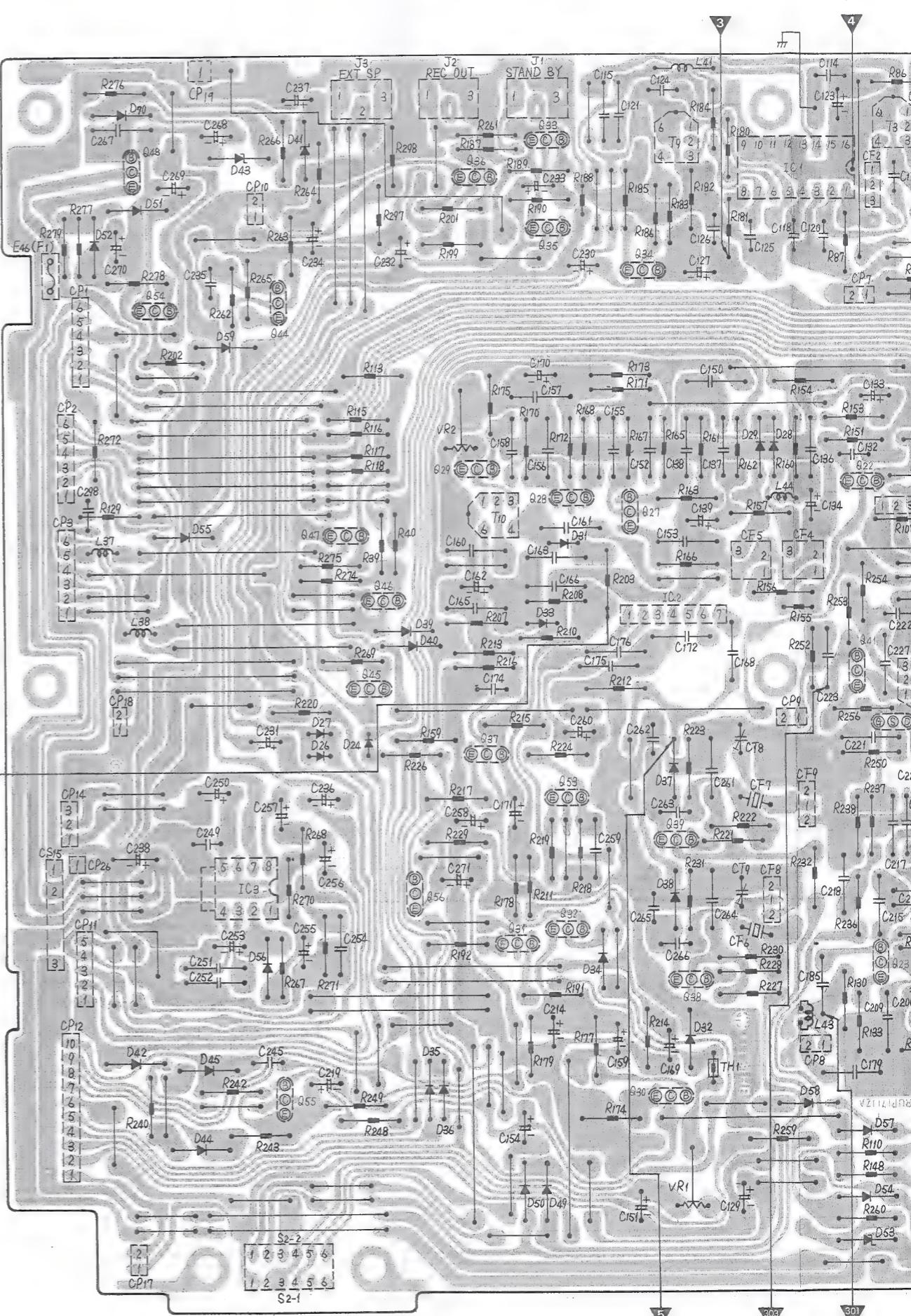
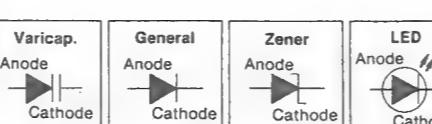
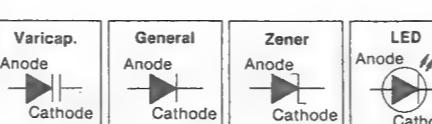
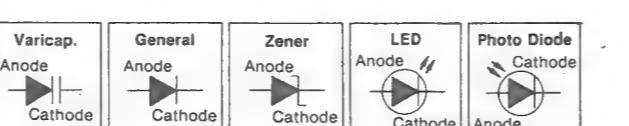
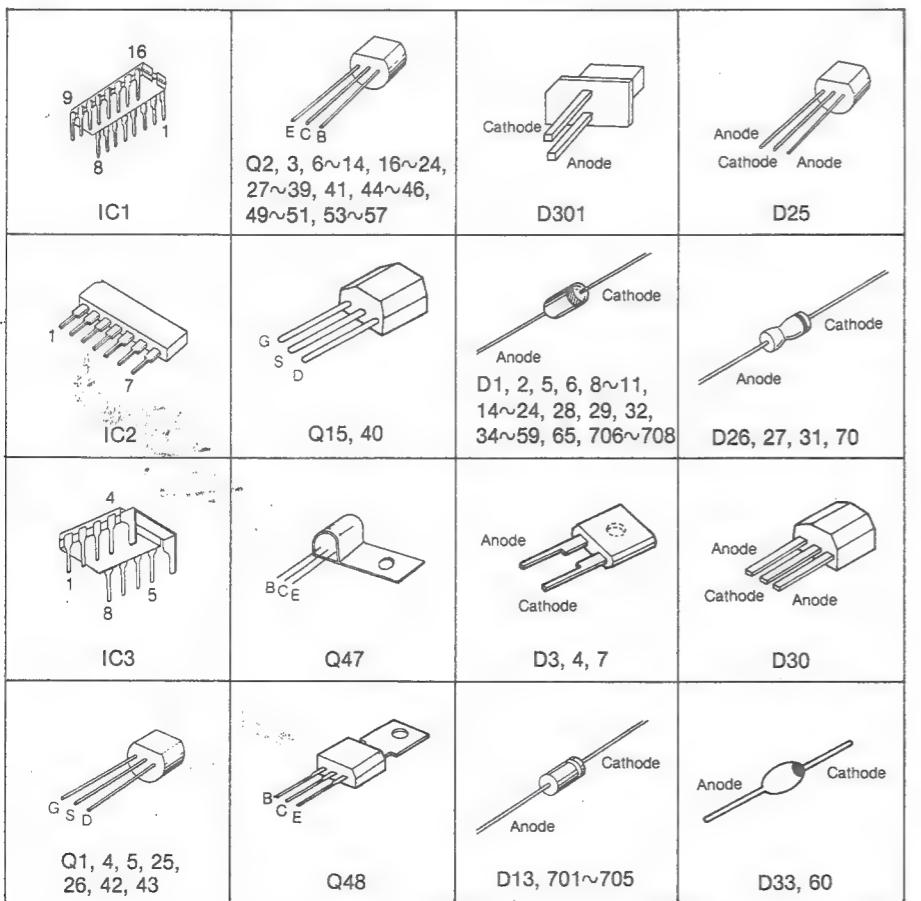
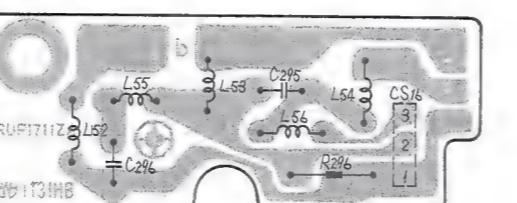
**CAUTION**  
**RISK OF ELECTRIC SHOCK**  
AC voltage line. Please do not touch  
this portion.

## LED CIRCUIT BOARD

## JACK CIRCUIT BOARD

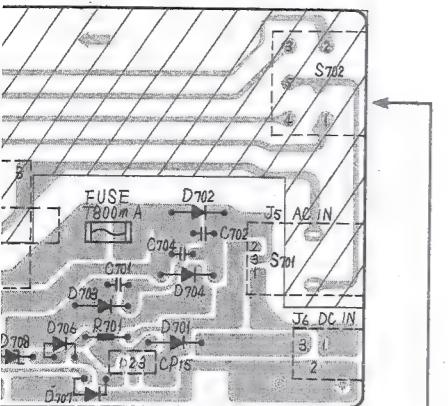


## FILTER CIRCUIT BOARD



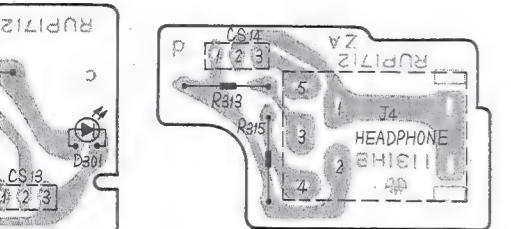
**CIRCUIT BOARD (TUNER) MODEL RF-B600LBS/LBE**

## SOURCE CIRCUIT BOARD

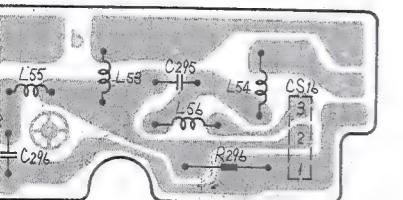


ON  
F ELECTRIC SHOCK  
age line. Please do not touch  
rtion.

#### **IT BOARD ■ JACK CIRCUIT BOARD**



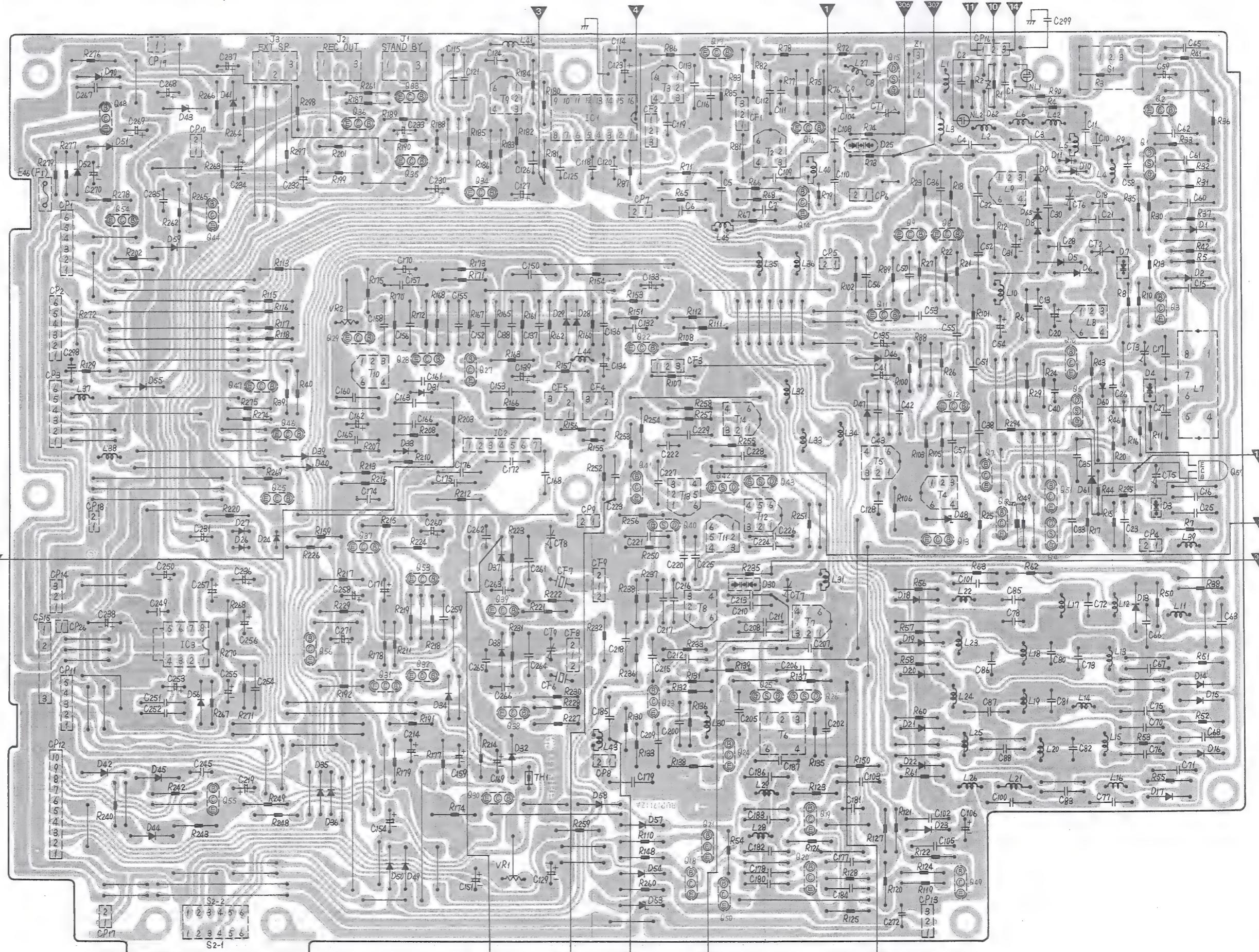
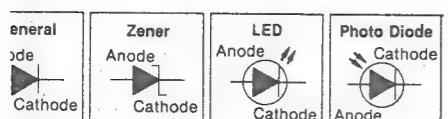
## FILTER CIRCUIT BOARD



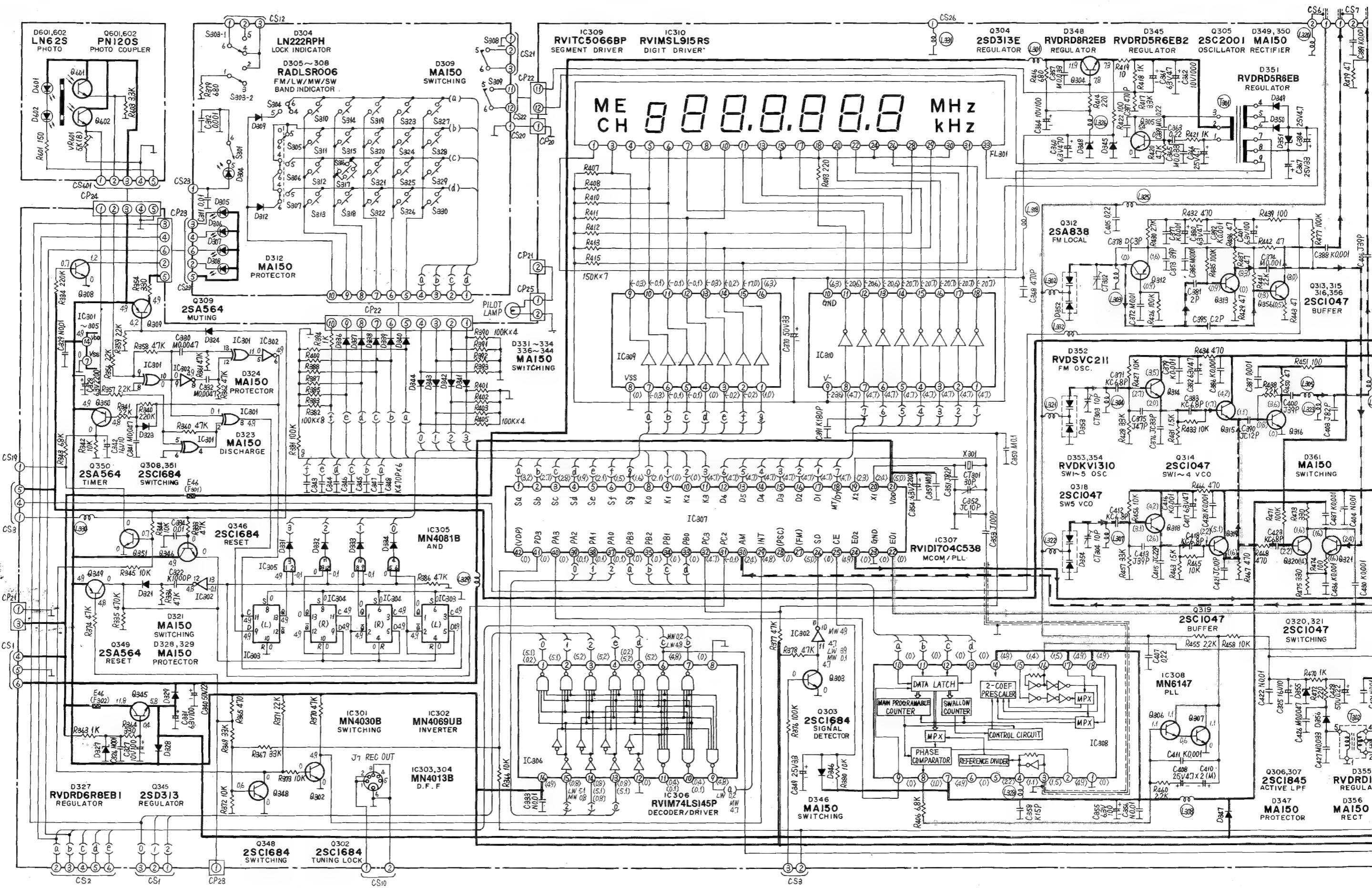
S2-2 AM  
USB  
LSB

0	0	0	0	0	0
1	2	3	4	5	6
0	0	0	0	0	0

AM  
USB  
LSB S2-1

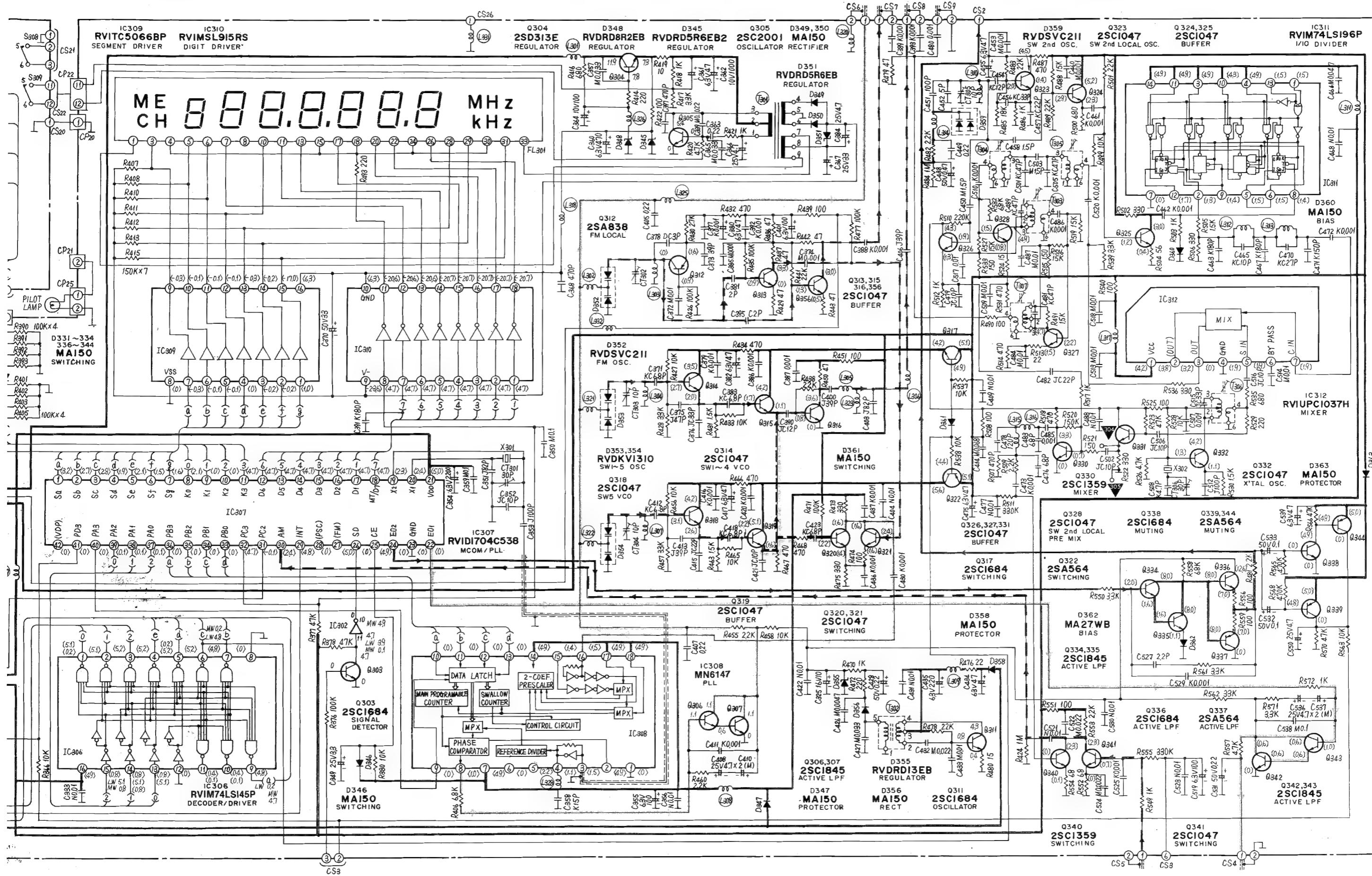


## SCHEMATIC DIAGRAM (DIGITAL) MODEL RF-B600LBS/LBE

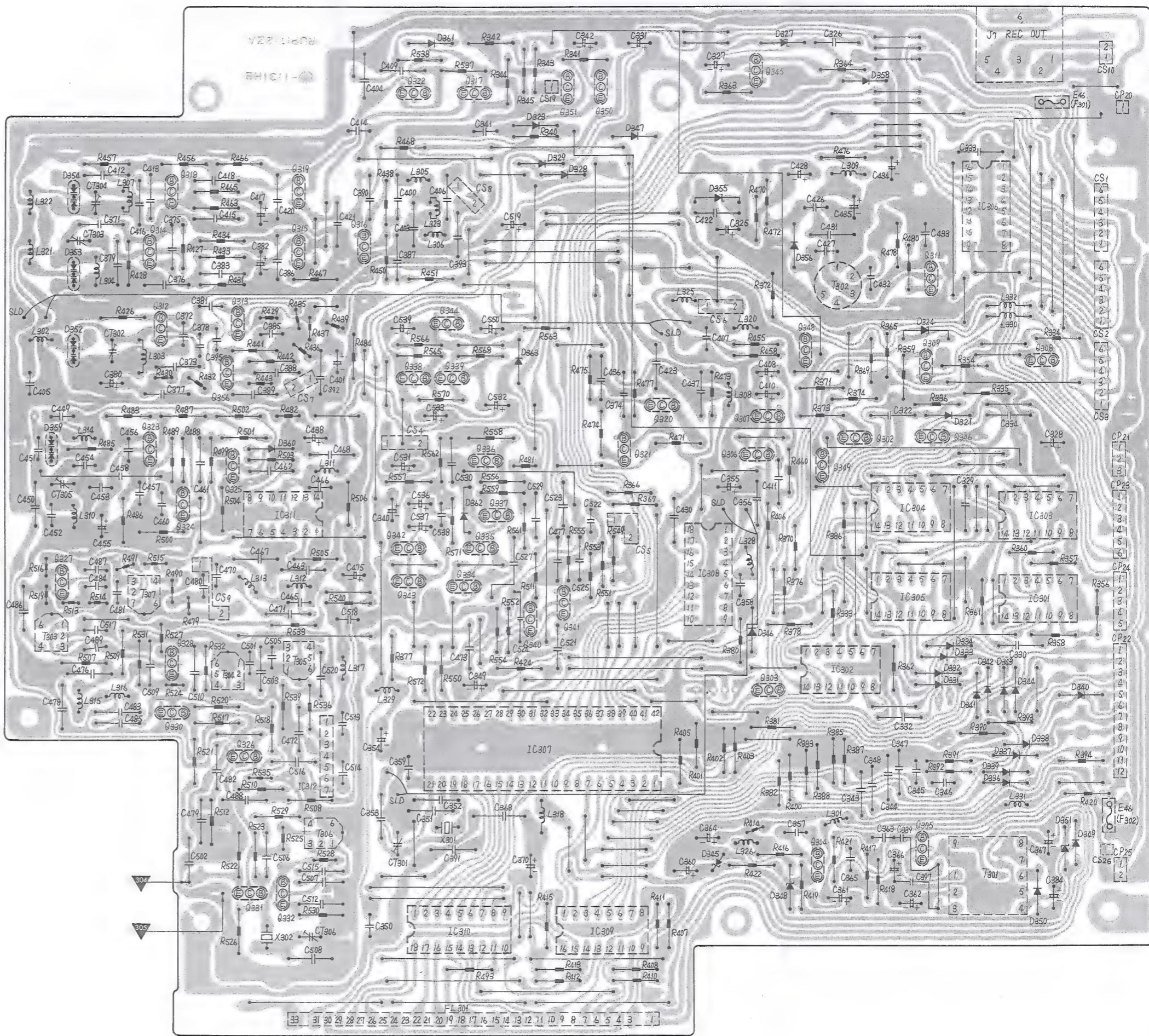
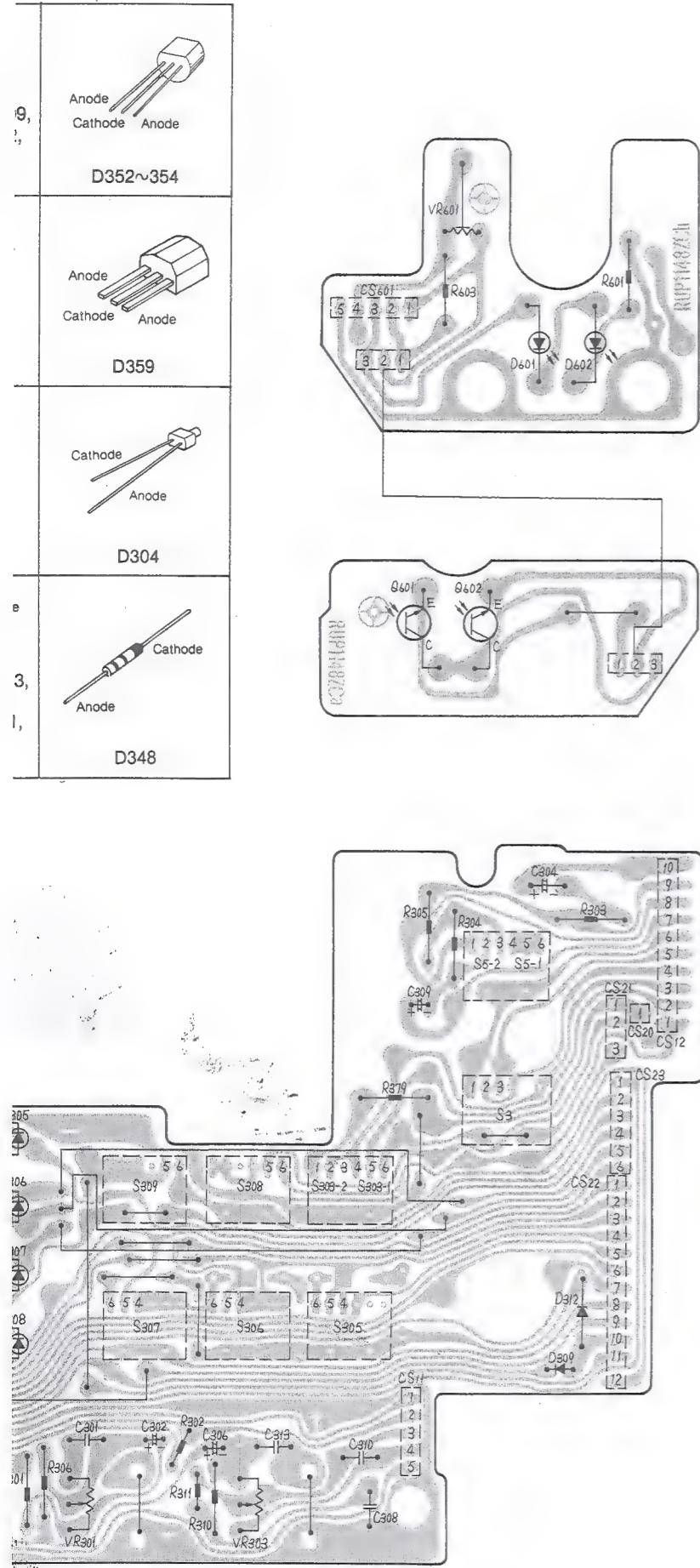


## SCHEMATIC DIAGRAM (DIGITAL) MODEL RF-B600LBS/LBE

AM OSC Signal, LW, MW, Vcap Signal,  
 FM/SW Vcap Signal, + Voltage Line,  
 AM Signal, FM/SW VCO Signal  
 FM VCO Signal, SW Vcap Signal  
 SW1~5 OSC Signal



## **CIRCUIT BOARD (DIGITAL) MODEL RF-B600LBS/LBE**

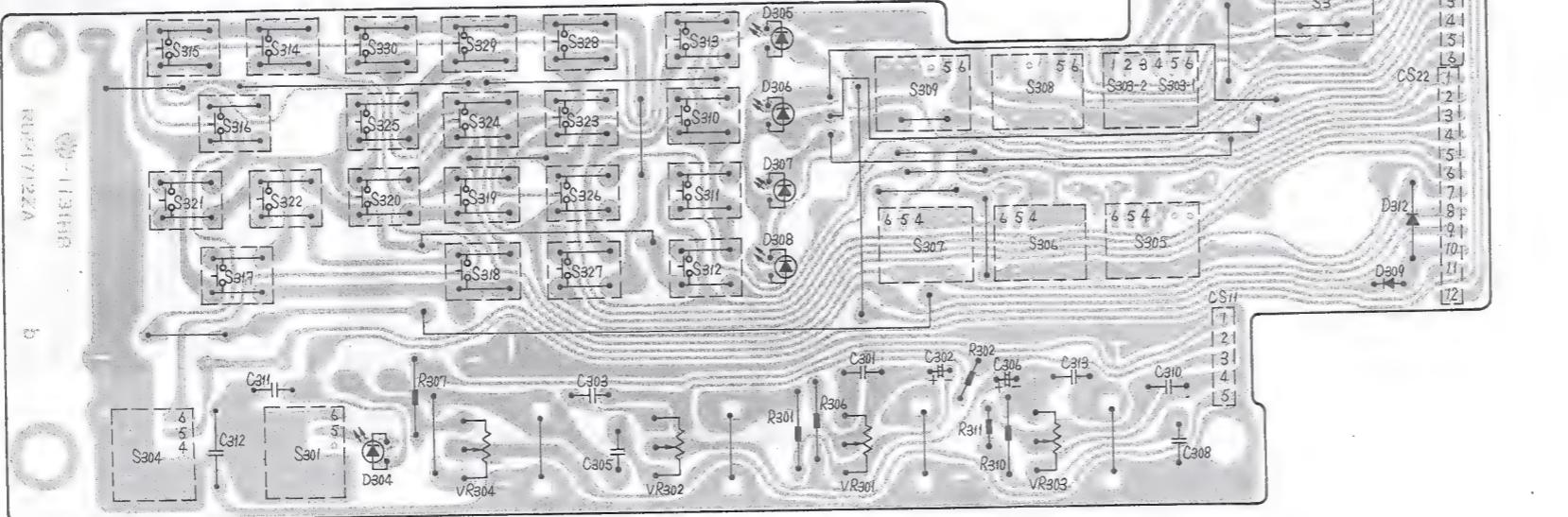
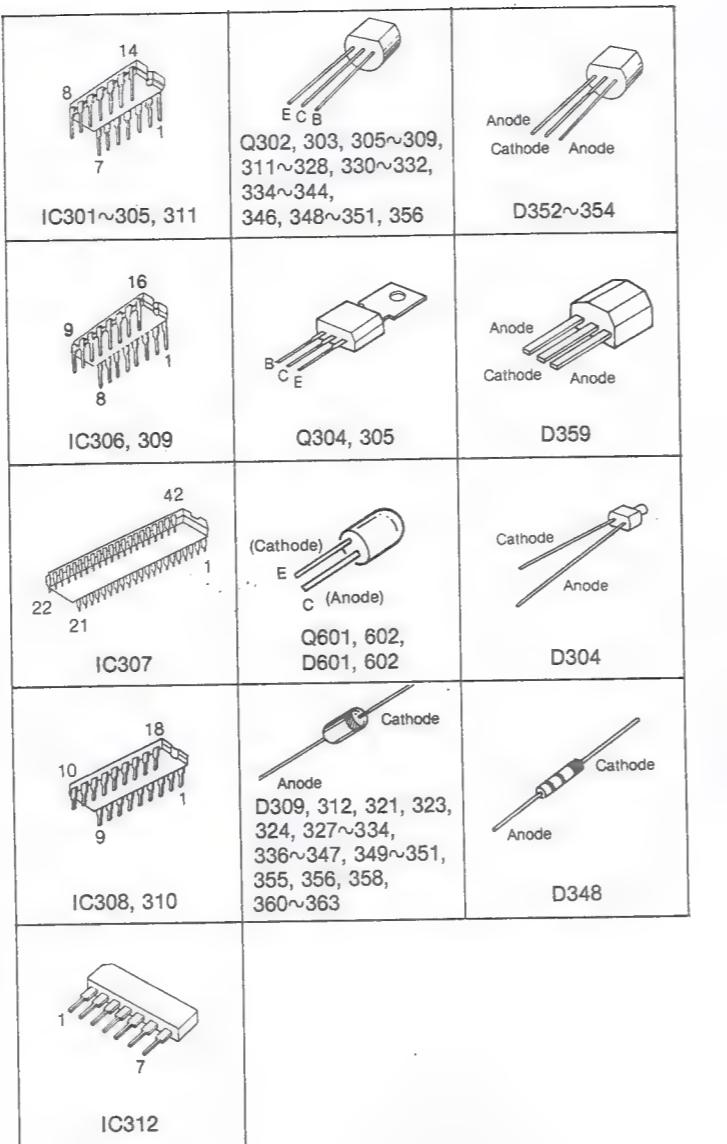
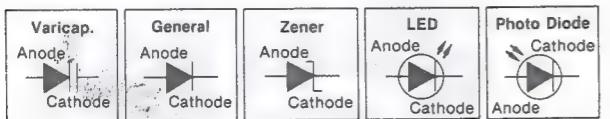


# CIRCUIT BOARD (DIGITAL)

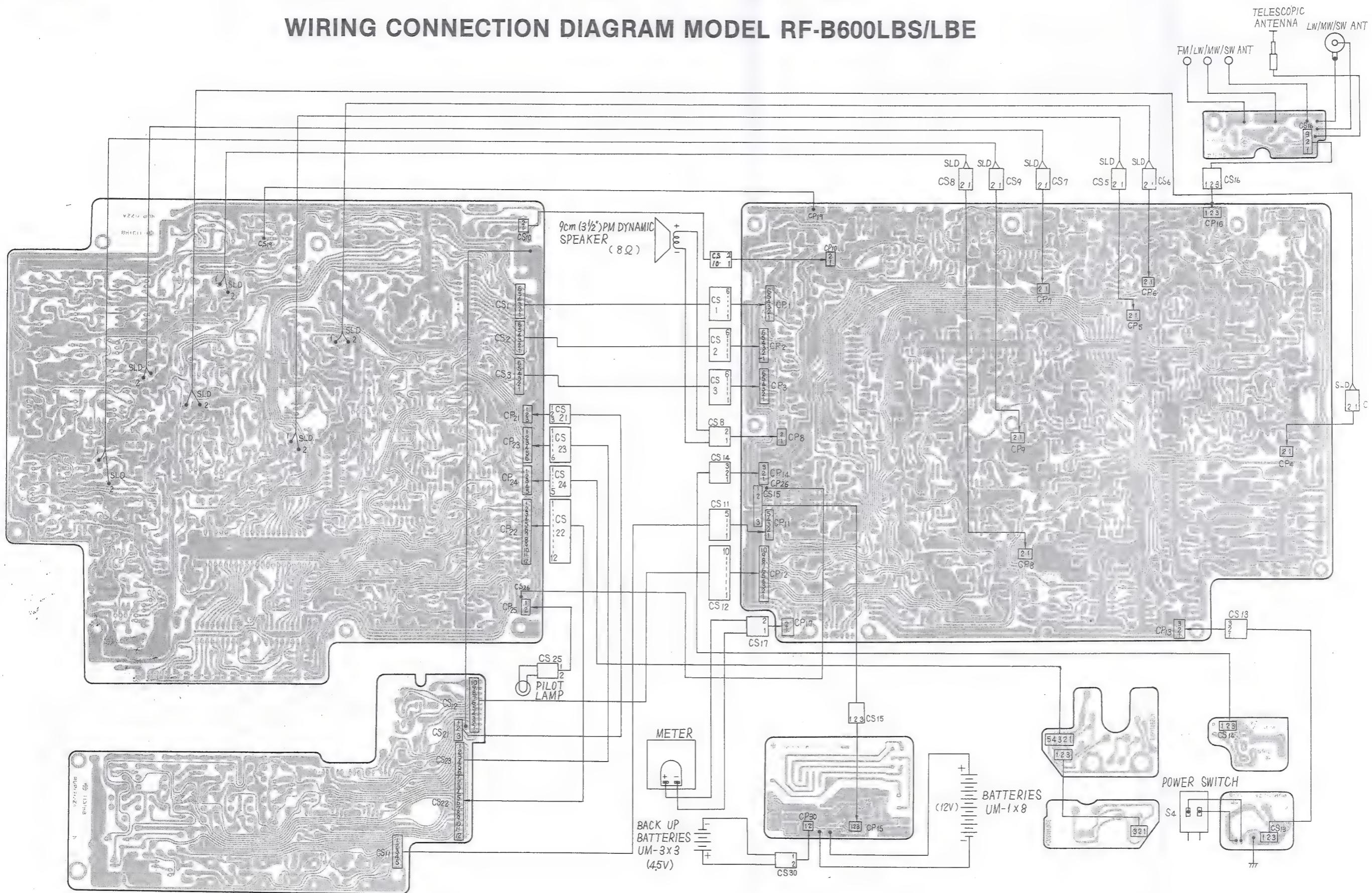
## Notes:

1. S301: Tuning lock switch in "OFF" position.  
(5...ON, 6...OFF)
2. S303-1, S303-2: Indicator switch in "TUNING/SIGNAL" position.  
(4, 3...TUNING/SIGNAL, 5, 2...BATT)
3. S304: Tuning speed switch in "SLOW" position.  
(4...SLOW, 5...FAST)
4. S305~S307: SW zone auto tuning switch in "MANUAL" position.  
(S305...MANUAL, S306...SCAN, S307...SEEK)
5. S308: Light switch in "OFF" position.
6. S309: Display switch in "OFF" position.
7. S310: LW switch.
8. S311: MW switch.
9. S312: SW switch.
10. S313: FM switch.
11. S314: Memory switch.
12. S315: Direct (access) switch.
13. S316: Enter switch.
14. S317: Stop switch.
15. S318: Memory scan switch.
16. S319: Direct access switch. (8)
17. S320: Direct access switch. (9)
18. S321: Up switch.
19. S322: Down switch.
20. S323: Direct access switch. (4)
21. S324: Direct access switch. (5)
22. S325: Direct access switch. (6)
23. S326: Direct access switch. (7)
24. S327: Direct access switch. (0)
25. S328: Direct access switch. (1)
26. S329: Direct access switch. (2)
27. S330: Direct access switch. (3)
28. VR301, 302: Bass & Treble control VR.
- VR303: Volume control VR.
- VR304: RF gain adjustment VR.
- VR601: Tuning block adjustment VR.
29. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.

< ...FM, ( )...LW/MW, [ ]...SW  
Display Setting  
FM...88.1 MHz, LW...330 kHz, MW...1000 kHz, SW...10 MHz



## WIRING CONNECTION DIAGRAM MODEL RF-B600LBS/LBE



## CABINET PARTS LOCATION

### GRAM MODEL RF-B600LBS/LBE

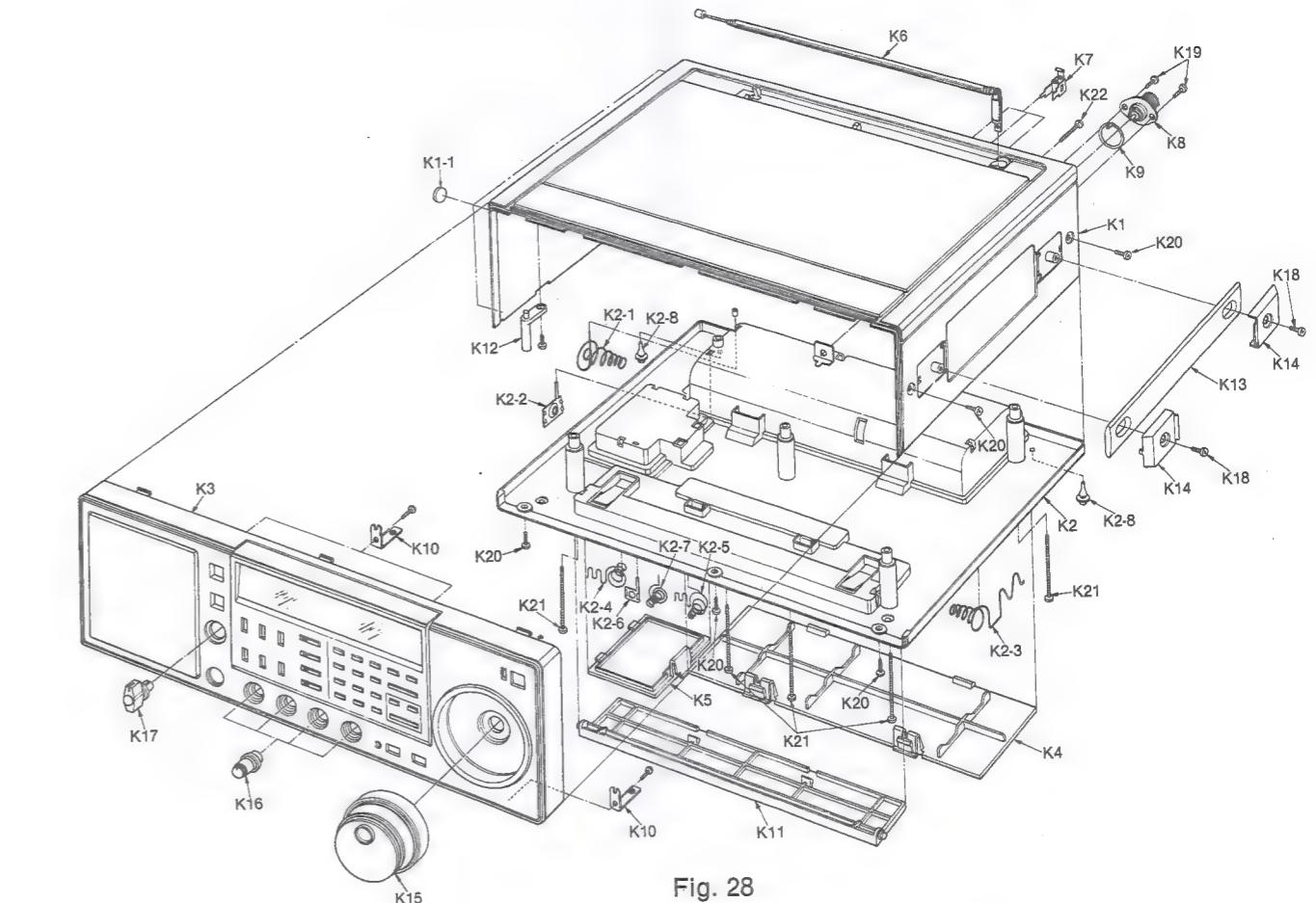
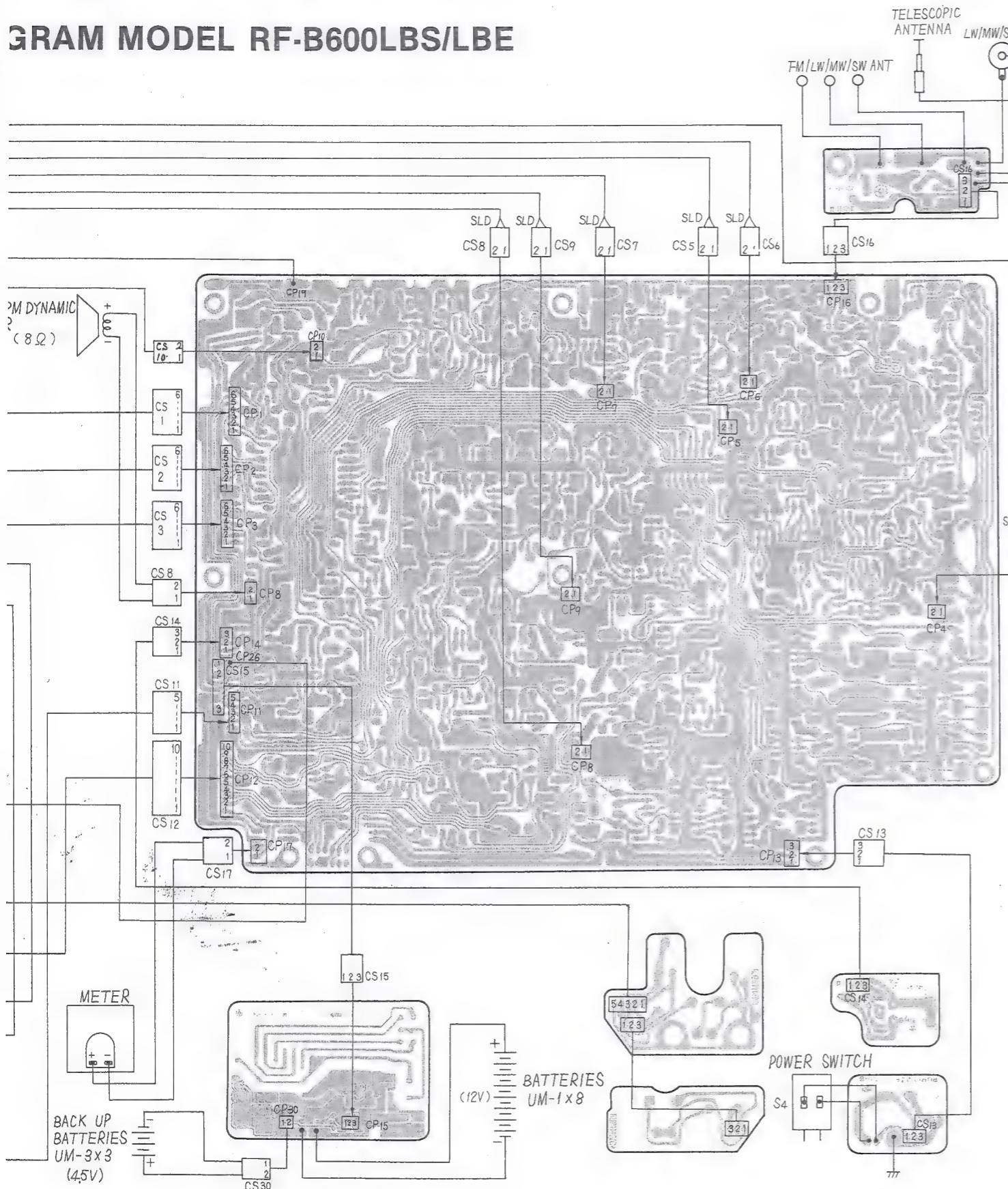


Fig. 28

## ELECTRICAL PARTS LOCATION

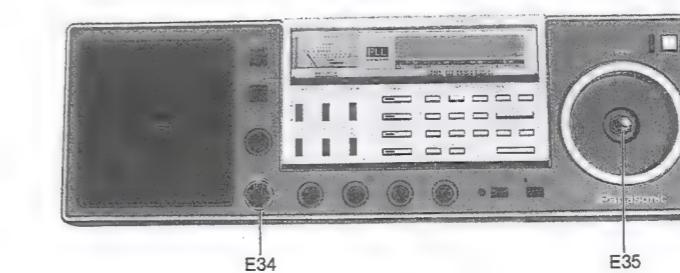


Fig. 29

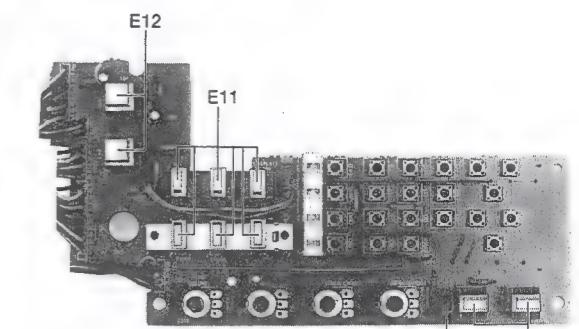


Fig. 31

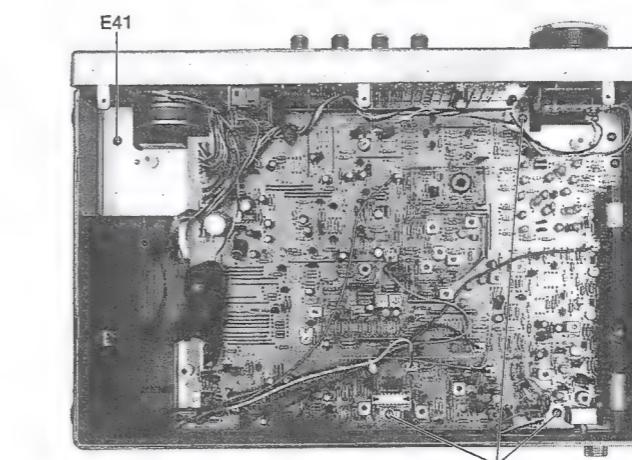


Fig. 30

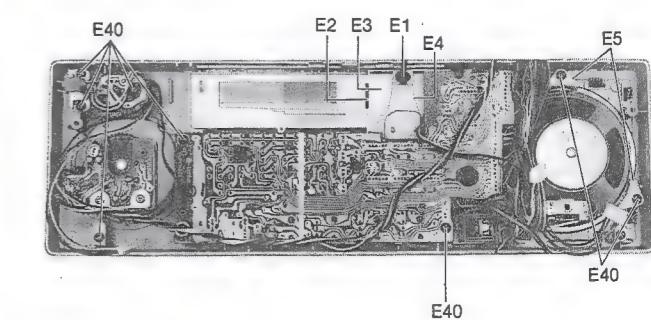


Fig. 32

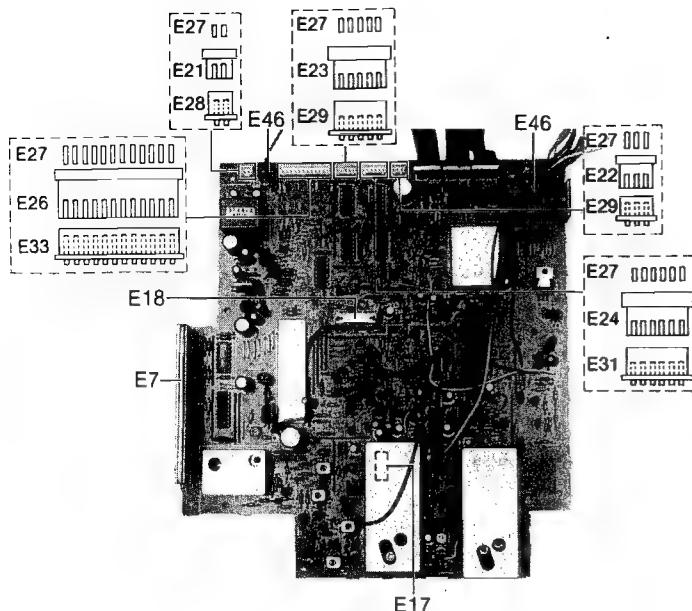


Fig. 33

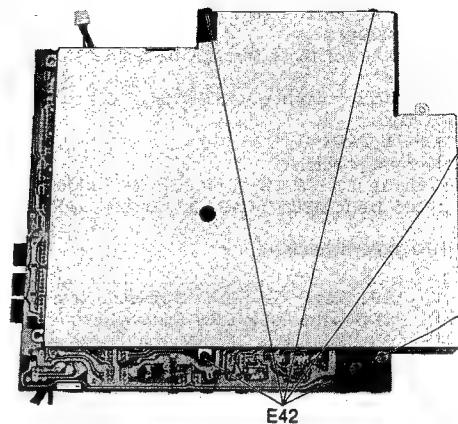


Fig. 36

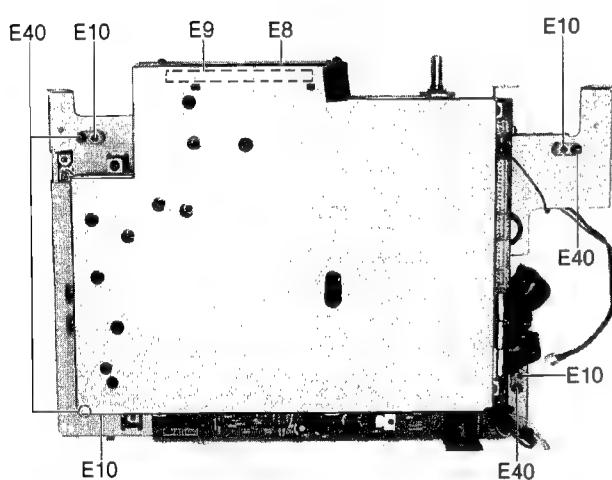


Fig. 34

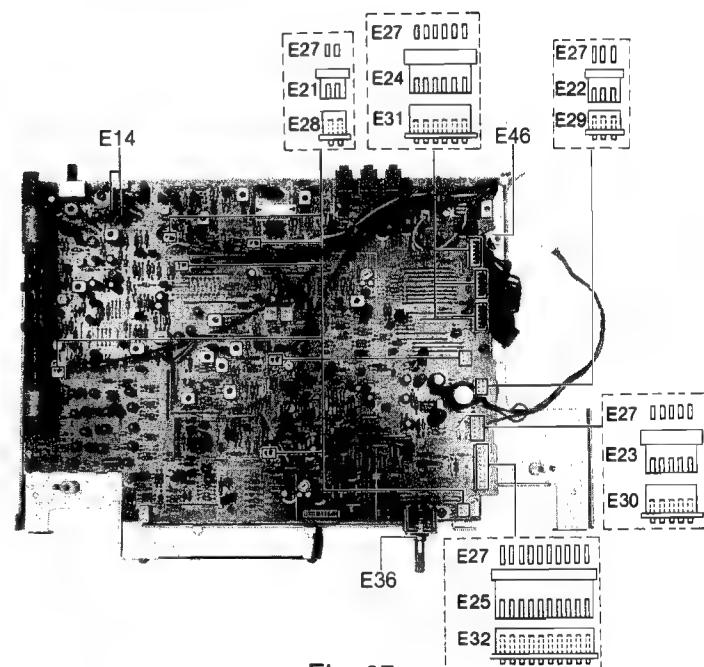


Fig. 37

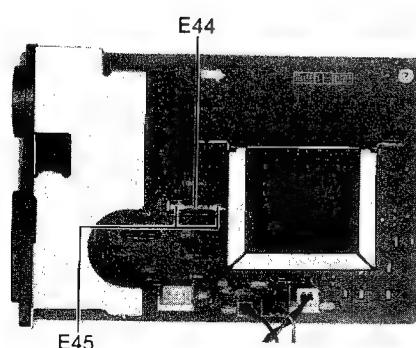


Fig. 35

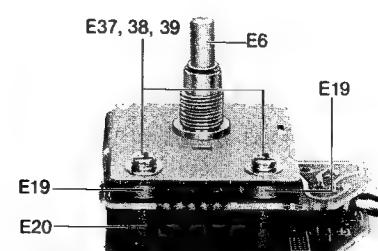


Fig. 38

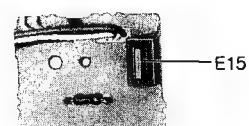


Fig. 39

REPLACEMENT PARTS LIST		RF-B600LBS/ LBE				
Notes:		(RD83105387C2)				
1. Important safety notice. Components identified by $\Delta$ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.						
2. The S mark indicates service standard parts and may differ from production parts.						
<b>3. RESISTORS &amp; CAPACITORS</b> Unless otherwise specified. All resistors are in OHMS ( $\Omega$ ) K=1000 $\Omega$ , M=1000k $\Omega$ All capacitors are in MICRO FARADS ( $\mu F$ ) P= $\mu\mu F$						
* Type & Wattage of Resister Type						
ERC:Solid	ERX:Metal Film	ERW:Wirewound Resister				
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resister				
RRD:Chip	ERO:Metal Film	ERF:Cement Resister				
Wattage						
10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W		
3:3W						
* Type & Voltage of Capacitor Type						
ECFW:Semi-conductor	ECCD,ECKD,ECBT:Ceramic					
ECQS:Styrol	ECQM,ECQV,ECQG:Polyester					
ECUX:Chip	ECEA,ECSZ	Electrolytic				
ECMS:Mica	ECQP	Polypropylene				
Voltage						
ECQ Type	ECQG, ECQV, Type	ECSZ Type	Others			
1H: 50V	0.5: 50V	OF:3.15V	OJ :6.3V	1H,1V,50: 50V		
2A:100V	1:100V	1A:10V	1A :10V	1J :63V		
2E:500V	2:200V	1V:35V	1C :16V	2A :100V		
2H:500V		OJ:6.3V	1E,25:25V			
Ref. No.	Part No.	Part Name & Description		Per Set		
		INTEGRATED CIRCUITS, TRANSISTORS AND DIODES				
IC1	RVIL1A210	IC		1		
IC2, 312	RVIUPC1037H	IC		2		
IC3	RVIUPC575C2	IC		1		
IC301	MN4030B	IC		1		
IC302	MN4069UB	IC		1		
IC303, 304	MN4013B	IC		2		
IC305	MN4081B	IC		1		
IC306	RVIM74LS145P	IC		1		
IC307	RVID1704C538	IC		1		
IC308	MN6147	IC		1		
IC309	RVITC5066BP	IC		1		
IC310	RVIMSL915RS	IC		1		
IC311	RVIM74LS196P	IC		1		
Q1	2SK104E	Transistor (Si)		1		
Q2,14,19,20, 23,24,313~316, 318~321, 323~328, 331,332,341,356						
	2SC1047-C	Transistor (Si)	24 S			
Q3,10,31,34, 49~51,55,302, 303,317,336,346,351	2SC1684-Q	Transistor (Si)	14 S			
Q4,5,25,26,42,43	2SK104F	Transistor (Si)	6			
Q6,7,30,32,33,44, 56,308,311,338	2SC1685-Q	Transistor (Si)	10 S			
Q8,9,11,13 41,330,340	2SC1359B	Transistor (Si)	8 S			
Q15,40	2SK212D	Transistor (Si)	2			
Q16,57,312	2SA838-B	Transistor (Ge)	3 S			
Q17,38,39	2SC829-C	Transistor (Si)	3 S			
Q18,21,36,37,45,46,53, 349,350	2SA722-S	Transistor (Ge)	15 S			
Ref.No.	Part No.	Part Name & Description		Per Set		
Q22,27~29	2SC829-B	Transistor (Si)	4 S			
Q35,305	2SC2001K2	Transistor (Si)	2			
Q47	2SA952KL	Transistor (Ge)	1			
Q48,304,345	2SD313E	Transistor (Si)	3			
Q306,307	334,335	Transistor (Si)	4			
Q342,343	2SC1845E	Transistor (Si)	2			
Q348	2SC1684S	Transistor (Si)	1			
Q601,602	PN120S	Transistor	2			
D1,2,5,6	8,9,14~23,65	Diode (Si)	17			
D3,4,7	RVD1SS53	Diode (Si)	1			
D10,11,24,28,29, 34~40,42,44~47,49~52, 54~59,61,309,312, 321,323,324,328,239, 331~334	RVDKV1235ZB	Diode (Si)	59 S			
	MA161	Diode (Si)	59 S			
D13,701~705	SM112	Diode (Si)	6 S			
D25,30,352,359	RVDSVC211	Diode (Si)	4			
D26,27,31,70	2OA90	Diode (Si)	4 S			
D32	MA27A1	Diode (Si)	1			
D33	RVDKB262C	Diode (Si)	1 S			
D53,351	RVDRD5R6EB	Diode (Si)	2			
D41,43	RVDRD6R2EB	Diode (Si)	2			
D48	RVDRD10EB	Diode (Si)	1			
D60	RVDKB265G	Diode (Si)	1 S			
D62	ERZD03DK331	Diode (Si)	1			
D301	LN220RP	LED	1			
D304	LN222RPH	LED	1			
D305~308	RADLRS006	LED	1			
D327	RVDRD6R8EB1	Diode (Si)	1			
D345	RVDRD5R6EB2	Diode (Si)	1			
D348	RVDRD8R2EB	Diode (Si)	1			
D353,354	RVDKV1310	Diode (Si)	2			
D355	RVDRD13EB	Diode (Si)	1			
D362	MA27WB	Diode (Si)	1			
D601,602	LN62S	Diode	2			
D708	RVDRD5R6EB2	Diode (Si)	1			
THERMISTOR						
TH1	RRT800	Thermistor	1			
CRYSTALS						
X301	RVCA4500NZN	Crystal	1			
X302	RVCA35663NZN	Crystal	1			
COILS AND TRANSFORMERS						
L1	RLQZB331K	Coil, Choke	1			
L2	RLQZB181K	Coil, Choke	1			
L6,20,28, 29,	RLQZB1ROK	Coil, Choke	6			
302,308	RLF6F25	Coil, LW,MW Antenna	1			
L7	RLO2M22	Coil, MW Oscillator	1			
L8	RLO1M6	Coil, LW Oscillator	1			
L9	RLQZ102-1	Coil, Choke	2			
L10,44	RLQZB471K	Coil, Choke	1			
L11	RLQZB150K	Coil, Choke	4			
L12,22,31, 325	RLQZB8R2K	Coil, Choke	2			
L13,23	RLQZB1R5K	Coil, Choke	3			
L14,24	RLQZB5R6K	Coil, Choke	1			
L15,25	RLQZB2R7K	Coil, Choke	1			
L16,19,26	RLQZB2R7K	Coil, Choke	1			
L17	RLQZB1R5K	Coil, Choke	3			
L18	RLQZB5R6K	Coil, Choke	1			
L27	RLQZB2R7K	Coil, Choke	1			
L32~36	RLQZB151K	Coil, Oscillator	5			
L37~39,317	RLQZB151K	Coil, Choke	2			
L41,330	RLQZA101K	Coil, Choke	2			
L42,321	RLQZB3R3K	Coil, Choke	2			

Ref. No.	Part No.	Part Name & Description	Per Set	Ref. No.	Part No.	Part Name & Description	Per Set
L44	RLQZ102	Coil, Choke	1	J4	RJJ1E9Z	Jack, Headphone	1
L55	RLQZB221K	Coil, Choke	1	J5,6	RJJ1F2Z	Jack, AC/DC	1 ▲
L301, 326	RLQX1014	Coil, Choke	2	J7	RJS15A	Jack, Rec. Out	1
L303	RLO4N141	Coil, Choke	1			CABINET PARTS	
L309, 318	RLQZ1021	Coil, Choke	2	K1	RYMFB600LBS7	Upper Cabinet Ass'y	1 ▲
L312	RLQZB180K	Coil, Choke	1	K1-1	RHG341Z	Rubber Cushion, Cabinet	4
L314, 329	331			K2	RYFFB600LBS7	Bottom Cabinet	1
L315, 316	RLQZB100K	Coil, Choke	3	K2	RYFFB600LBE7	Bottom Cabinet, For U.K.	1 ▲
L320	RLQZB120K	Coil, Choke	2	K2-1	RJC505Z	Spring, Battery (UM-1) - Side	1
L322	RLQZB2R2K	Coil, Choke	1	K2-2	RJC111A	Terminal, Battery (UM-1) + Side	1
L332	RLQZA1R0K	Coil, Choke	1	K2-3	RJC936Z	Terminal, Battery (UM-1) +,- Side	1
T2, 3, 9	RLI4M101	FM IFT	3 S	K2-4	RJC975Z	Terminal, Battery (UM-3) +,- Side	1
T4	RLI2M222	AM IFT	1	K2-5	RJC974Z	Terminal, Battery (UM-3) + - Side	1
T5	RLI2M214	AM IFT	1 S	K2-6	RJC314A	Terminal, Battery (UM-3) + Side	1
T6	RLA3Z10	SW IFT	1	K2-7	RJC322A	Terminal, Battery (UM-3) +,- Side	1
T7, 8	RLI9M11	SW IFT	2	K2-8	RHG335Z	Rubber Cushion, Cabinet	2
T10	RLI2M402	AM IFT	1 S	K3	RYPFB600LBSX	Front Panel Ass'y	1
T11~13	RLI9M10	SW IFT	3	K4	RYN1FB600N7	Battery Compartment Cover, UM-1	1 ▲
T14	RLI2M901	SW IFT	1	K5	RYN2FB600N7	Battery Compartment Cover, UM-3	1 ▲
T301	RLT9F4A	DC/DC Converter	1	K6	XEARR225EAY	Telescopic Antenna	1
T302	RLO9Z1	DC/DC Converter	1	K7	RJF1065Y	Terminal, EXT Antenna, Earth	3
T303~305	307			K8	RJS258Y	Socket, LW/MW/SW Antenna	1
	RLI9M8	SW 2nd VCO Filter	4	K9	RJT212A	Terminal, Antenna Socket	1
T306	RLA7M72	35.6636 MHz Oscillator	1	K10	RUE51Z	Bracket, Front Panel	3
T701	RLT5K4Z1A	Power Transformer	1 ▲	K11	RKL24Z	Stand, Cabinet	1
		VARIABLE RESISTORS		K12	RHR1023V	Shaft, Cabinet	2
VR1	EVNM4AA00B52	Variable Resistor, Pre set, 500Ω (B)	1 S	K13	RKH5086Z	Handle, Cabinet	1
VR2	EVNM4AA00B13	Variable Resistor, Pre set, 1kΩ (B)	1 S	K14	RKT133Y	Bracket, Handle	1
VR301, 302	EVJF8AF20B54	Variable Resistor, 50kΩ (B)	2	K15	RVTFB600N	Knob Ass'y Tuning	1
VR303	EVJF8AF20D54	Variable Resistor, 50kΩ (D)	1	K16	RBN631Z	Knob, Volume, Base etc.	4
VR304	EVJF8AF20A14	Variable Resistor, 10kΩ (A)	1	K17	RBS209Z	Knob, AM Mode	1
VR601	EVNM4AA00B53	Variable Resistor, Pre set, 5kΩ (B)	1 S	K18	XTB3+10CFN	Screw, Handle M'tg	2
		VARIABLE CAPACITORS		K19	XTB3+10FFN	Screw, Antenna Socket M'tg	2
CT1~3, 5, 302~305	RCVTZ11F	Trimmer Capacitor	8	K20	XTB3+10FFZ	Screw, Cabinet M'tg	5
CT7	RCVTZ20F	Trimmer Capacitor	1	K21	XTB3+60C	Screw, Cabinet M'tg	5
CT8, 9	RCVCTZ51J	Trimmer Capacitor	2	K22	XSB3+16BN	Screw, Telescopic Antenna M'tg	1 S
CT6, 301, 306	RCVTZ30F	Trimmer Capacitor	3			ELECTRICAL PARTS	
		CERAMIC FILTERS		E1	XAMR82R150A	Pilot Lamp	1
CF1, 2	RVF107MTNAR	Ceramic Filter	2	E2	RUV703Z	Cover, Meter	1
CF3	RVFCFM2450D	Ceramic Filter	1	E3	RSM2629Z	Meter	1
CF4	RVFSFP450K	Ceramic Filter	1	E4	RUS536Z	Spring	1
CF5	RVFSFP450H10	Ceramic Filter	1	E5	RMS12B	Bracket, Speaker	3
CF6	RVBCSB448R5	Ceramic OSC Element	1	E6	RDT9138Z	Shaft, Tuning	1
CF7	RVBCSB451R5	Ceramic OSC Element	1	E7	RAD9BT04ZS	Display	1
CF8, 9	RVFCSC101K	Ceramic Filter	2	E8	RGP866Z	Panel, Display	1
		COMPONENT COMBINATION		E9	RHG2034Z	Rubber Cushion, Display	1
Z1	RXABPWF5W	Component Combination	1	E10	RHR1216Z	Shaft, Chassis	5
		SPEAKER		E11	RBC445Z	Button, Indicator, Display etc.	6
	RAS9P14Z	Speaker, 9 cm(3 1/2"), 8Ω	1	E12	RBC446Z	Button, Power, AM ANL etc.	3
		SWITCHES		E13	RBC447Z	Button, Lock, Tuning Speed	2
S1	RSS2A06X	Switch, SW Antenna	1	E14	XANR2T20	Neon Lamp	2
S2	RSR3B05Z	Switch, AM Mode	1	E15	RMP162Z	Holder, LED (D301)	1
S3, 5, 301	RSH2B22Z	Switch, Band Width, AM ANL etc.	7	E16	RMP206Z	Holder, LED (D304)	1
308, 309	RSH1A10X	Switch, Radio	1	E17	RMC171Y	Shield Cover, IC311	1
S305~307	RSHX052Z	Switch, Manual, Scan, Seek	1	E18	RMC607Z	Shield Cover, IC308	1
S310~330	RSH1A28Z	Switch, Band, Direct-Access Tuning	21	E19	RUE38Z	Shaft, Tuning Circuit Board	2
S701	Refer to J5	Jack, AC/DC					
S702	RSR4A07Z	Switch, Voltage Selector	1 ▲				
J1~3	QJA0172A	JACKS					
		Jack, Stand By, Rec Out, EXT SP	3				

Ref. No.	Part No.	Part Name & Description	Per Set	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
E20	RMP207Z	Holder, Q601, 602 D601, 602	1	R55	ERD25FJ471	470 S	R161	ERD25FJ103	10K S
E21	RJS2L3Z	Socket, 2 Pin	11	R56	ERD25FJ471	470 S	R162	ERD25FJ101	100 S
E22	RJS3L3Z	Socket, 3 Pin	5	R57	ERD25FJ471	470 S	R163	ERD25FJ333	33K S
E23	RJS5L3Z	Socket, 5 Pin	2	R58	ERD25FJ471	470 S	R165	ERD25FJ473	47K S
E24	RJS6L3Z	Socket, 6 Pin	4	R60	ERD25FJ471	470 S	R166	ERD25FJ471	470 S
E25	RJS10L3Z	Socket, 10 Pin	1	R61	ERD25FJ471	470 S	R167	ERD25FJ102	1K S
E26	RJS12L3Z	Socket, 12 Pin	1	R62	ERD25FJ331	330 S	R168	ERD25TJ224	220K S
E27	RJT707Z	Terminal, Socket	93	R63	ERD25FJ331	330 S	R170	ERD25FJ101	100 S
E28	RJP2G4Y	Plug, 2 Pin (CP4~10, 17, 18, 25, 30)	11	R65	ERD25FJ470	47 S	R171	ERD25FJ101	100 S
E29	RJP3G4Y	Plug, 3 Pin (CP13~16, 21)	5	R66	ERD25FJ333	33K S	R172	ERD25FJ102	1K S
E30	RJP5G4Y	Plug, 5 Pin (CP11, 24)	2	R67	ERD25FJ101	100 S	R173	ERD25FJ472	4.7K S
E31	RJP6G4Y	Plug, 6 Pin (CP1~3, 23)	4	R68	ERD25FJ331	330 S	R17	ERD25FJ681	680 S
E32	RJP10G4Y	Plug, 10P (CP12)	1	R71	ERD25FJ102	1K S	R17	ERD25TJ224	220K S
E33	RJP12G4Y	Plug, 12 Pin (CP22)	1	R72	ERD25FJ220	22 S	R17	ERD25TJ683	68K S
E34	XNS12D	Nut, Headphone Jack M'tg	1	R73	ERD25TJ104	100K S	R17	ERD25FJ333	33K S
E35	XNS9	Nut, Tuning Shaft M'tg	1 S	R74	ERD25TJ104	100K S	R17	ERD25TJ224	220K S
E36	XNS8D	Nut, AM Mode Switch M'tg	1	R75	ERD25FJ103	10K S	R17	ERD25FJ332	3.3K S
E37	XSN3+6S	Screw, Tuning Circuit Board M'tg	4 S	R76	ERD25FJ333	33K S	R17	ERD25FJ223	22K S
E38	XWA3B	Washer	4 S	R77	ERD25FJ102	1K S	R17	ERD25TJ683	68K S
E39	XWG3	Washer	4 S	R78	ERD25FJ220	22 S	R184	ERD25FJ680	68 S
E40	XTV3+10G	Screw, Speaker Bracket etc. M'tg	22	R79	ERD25FJ681	680 S	R185	ERD25FJ122	1.2K S
E41	XTV3+10GR	Red Screw, Chassis M'tg	1	R81	ERD25FJ221	220 S	R186	ERD25FJ472	4.7K S
E42	XTV3+6F	Screw, Circuit Board M'tg	8	R82	ERD25TJ334	330K S	R187	ERD25FJ103	10K S
E43	XTV3+8BFN	Screw, Circuit Board M'tg	18 S	R83	ERD25FJ101	100	R188	ERD25TJ683	68K S
E44	XBA2C08TRO	Fuse	1 A	R85	ERD25FJ471	470	R189	ERD25FJ682	6.8K S
E45	QTF1054	Holder, Fuse	2	R86	ERD25FJ101	100	R190	ERD25FJ471	470 S
E46	RAHICPN5	Protector, IC (F1, 301, 302)	3	R87	ERD25FJ331	330 S	R191	ERD25FJ333	33K S
		ACCESSORIES		R88	ERD25TJ684	680K S	R192	ERD25FJ331	330 S
	RJA20Z	Power Cord, AC	1 A	R89	ERD25TJ104	100	R199	ERD25FJ222	2.2K S
	RJA86Z	Power Cord, AC(For U.K.)	1 A	R100	ERD25FJ473	47 S	R201	ERD25TJ154	150K S
	RJP97Z	Antenna Connector	1	R101	ERD25FJ221	220 S	R202	ERD25TJ683	68K S
		PACKING MATERIALS		R102	ERD25FJ102	1 S	R203	ERD25FJ471	470 S
	XZB60×50A01	Polyethylene Cover	1 S	R103	ERD25FJ472	4.7K S	R207	ERD25FJ223	22K S
	RPN9446Z	Pad Complete	1	R105	ERD25TJ105	1 S	R208	ERD25FJ682	6.8K S
	RPK1739Z	Gift Box	1	R106	ERD25FJ470	1 S	R210	ERD25FJ333	33K S
	RQE13Z	Caution Tag	1	R107	ERD25FJ222	1 S	R211	ERD25TJ334	330K S
		PRINTED MATERIALS		R108	ERD25FJ562	1 S	R212	ERD25FJ102	1K S
	RQX4256Z	Instruction Book	1	R109	ERD25FJ472	1 S	R213	ERD25FJ153	15K S
				R110	ERD25FJ472	1 S	R214	ERD25TJ474	470K S
	RJA20Z	Power Cord, AC	1 A	R111	ERD25FJ333	1 K S	R215	ERD25FJ223	22K S
	RJA86Z	Power Cord, AC(For U.K.)	1 A	R112	ERD25FJ473	7K S	R216	ERD25FJ102	1K S
	RJP97Z	Antenna Connector	1	R113	ERD25FJ102	1K S	R217	ERD25FJ471	470 S
	XZB60×50A01	Polyethylene Cover	1 S	R115	ERD25FJ102	1K S	R218	ERD25TJ104	100K S
	RPN9446Z	Pad Complete	1	R116	ERD25FJ102	1K S	R219	ERD25FJ100	10 S
	RPK1739Z	Gift Box	1	R117	ERD25FJ102	1K S	R220	ERD25TJ683	68K S
	RQE13Z	Caution Tag	1	R118	ERD25FJ102	1K S	R221	ERD25FJ333	33K S
		PRINTED MATERIALS		R119	ERD25FJ473	47K S	R222	ERD25FJ333	33K S
	RQX4256Z	Instruction Book	1	R120	ERD25FJ101	1K S	R223	ERD25FJ333	33K S
				R121	ERD25FJ222	220 S	R224	ERD25FJ102	1K S
	RJA20Z	Power Cord, AC	1 A	R122	ERD25FJ333	3.3K S	R226	ERD25TJ104	100K S
	RJA86Z	Power Cord, AC(For U.K.)	1 A	R123	ERD25FJ473	47K S	R227	ERD25FJ102	1K S
	RJP97Z	Antenna Connector	1	R124	ERD25TJ474	68K S	R228	ERD25FJ333	33K S
	XZB60×50A01	Polyethylene Cover	1 S	R125	ERD25FJ101	100 S	R229	ERD25FJ223	22K S
	RPN9446Z	Pad Complete	1	R126	ERD25FJ73	47K S	R230	ERD25FJ333	33K S
	RPK1739Z	Gift Box	1	R127	ERD25FJ70	47 S	R231	ERD25FJ333	33K S
	RQE13Z	Caution Tag	1	R128	ERD25FJ151	150 S	R232	ERD25FJ102	1K S
		PRINTED MATERIALS		R129	ERD25TJ683	68K S	R233	ERD25FJ470	47 S
	RQX4256Z	Instruction Book	1	R130	ERD25FJ470	47 S	R235	ERD25FJ473	47K S
				R131	ERD25TJ154	150K S	R236	ERD25TJ104	100K S
	RJA20Z	Power Cord, AC	1 A	R132	ERD25FJ681	680 S	R237	ERD25TJ104	100K S
	RJA86Z	Power Cord, AC(For U.K.)	1 A	R133	ERD25FJ470	47 S	R238	ERD25TJ224	220K S
	RJP97Z	Antenna Connector	1	R135	ERD25FJ331	330 S	R240	ERD25FJ562	5.6K S
	XZB60×50A01	Polyethylene Cover	1 S	R136	ERD25FJ103	10K S	R242	ERD25FJ562	5.6K S
	RPN9446Z	Pad Complete	1	R137	ERD25FJ152	1.5K S	R243	ERD25FJ682	6.8K S
	RPK1739Z	Gift Box	1	R138	ERD25FJ470	47 S	R248	ERD25FJ103	10K S
	RQE13Z	Caution Tag	1	R139	ERD25FJ470	47 S	R249	ERD25FJ332	3.3K S
		PRINTED MATERIALS		R140	ERD25FJ472	4.7K S	R250	ERD25FJ102	1K S
	RQX4256Z	Instruction Book	1	R141	ERD25FJ823	82K S	R251	ERD25FJ470	47 S
				R142	ERD25FJ473	47K S	R252	ERD25FJ470	47 S
	RJA20Z	Power Cord, AC	1 A	R143	ERD25FJ152	1.5K S	R253	ERD25TJ104	100K S
	RJA86Z	Power Cord, AC(For U.K.)	1 A	R144	ERD25FJ471	470 S	R254	ERD25FJ101	100 S
	RJP97Z	Antenna Connector	1	R145	ERD25FJ331	330 S	R255	ERD25FJ471	470 S
	XZB60×50A01	Polyethylene Cover	1 S	R146	ERD25FJ103	10K S	R256	ERD25FJ470	47 S
	RPN9446Z	Pad Complete	1	R147	ERD25FJ122	1.2K S	R257	ERD25FJ470	47 S
	RPK1739Z	Gift Box	1	R148	ERD25FJ222	2.2K S	R258	ERD25FJ471	470 S
	RQE13Z	Caution Tag	1	R149	ERD25FJ473	47K S	R259	ERD25FJ561	560 S
		PRINTED MATERIALS		R150	ERD25FJ152	1.5K S	R260	ERD25FJ123	12K S
	RQX4256Z	Instruction Book	1	R151	ERD25FJ471	470 S			
				R152	ERD25FJ331	330 S			
	RJA20Z	Power Cord, AC	1 A	R153	ERD25FJ103	10K S			
	RJA86Z	Power Cord, AC(For U.K.)	1 A	R154	ERD25FJ122	1.2K S			
	RJP97Z	Antenna Connector	1	R155	ERD25FJ222	2.2K S			
	XZB60×50A01	Polyethylene Cover	1 S	R156	ERD25FJ332	3.3K S			
	RPN9446Z	Pad Complete	1	R157	ERD25FJ222	2.2K S			
	RPK1739Z	Gift Box	1	R158	ERD25FJ103	10K S			
	RQE13Z	Caution Tag	1	R159	ERD25FJ470	100 S			
		PRINTED MATERIALS		R160	ERD25FJ101	100 S			

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
R261	ERD25FJ103	10K S	R393	ERD25TJ104	100K S	R499	ERD25FJ103	10K S	C11	ECBS1H100JL	10P
R262	ERD25TJ474	470K S	R394	ERD25FJ102	1K S	R500	ERD25FJ681	680 S	C13	ECBS1C103NY	0.01
R263	ERD25FJ332	3.3K S	R400	ERD25TJ104	100K S	R501	ERD25FJ223	22K S	C15	ECBS1C103NY	0.01
R264	ERD25FJ681	680 S	R401	ERD25TJ104	100K S	R502	ERD25FJ331	330 S	C16	ECBS1H4R7KL	4.7P
R265	ERD25FJ561	560 S	R402	ERD25TJ104	100K S	R503	ERD25FJ102	1K S	C17	ECBS1H5R6KC	5.6P
R266	ERD25FJ681	680 S	R403	ERD25TJ104	100K S	R504	ERD25FJ560	56 S	C18	ECQP2A271JZ	270P
R267	ERD25TJ124	120K S				R505	ERD25FJ152	1.5K S	C20	ECEA1AS470	47 S
R268	ERD25FJ121	120 S	R405	ERD25TJ104	100K S	R506	ERD25FJ331	330 S	C21	ECBS1H220JC	22P
R269	ERD25TJ103	10K S	R406	ERD25FJ682	6.8K S	R507	ERD25FJ471	470 S	C23	ECBS1C103NY	0.01
R270	ERD25TJ154	150K S	R407	ERD25TJ154	150K S	R508	ERD25FJ101	100 S	C25	ECBT1C223MY	0.022
R271	ERD25FJ473	47K S	R408	ERD25TJ154	150K S						
R272	ERD25FJ103	10K S	R410	ERD25TJ154	150K S	R509	ERD25FJ222	2.2K S	C26	ECBS1C103NY	0.01
R274	ERD25FJ103	10K S	R411	ERD25TJ154	150K S	R510	ERD25TJ224	220K S	C27	ECBT1C223MY	0.022
R275	ERD25FJ222	2.2K S	R412	ERD25TJ154	150K S	R511	ERD25TJ334	330K S	C28	ECQP2A221JZ	220P
R276	ERD25FJ331	330 S	R413	ERD25TJ154	150K S	R512	ERD25FJ102	1K S	C30	ECBS1H270JC	27P
R277	ERD25TJ104	100K S	R414	ERD25FJ221	220 S	R513	ERD25FJ220	22 S	C31	ECEA1HS100	10 S
R278	ERD25TJ104	100K S	R415	ERD25TJ154	150K S	R514	ERD25FJ471	470 S	C32	ECBS1C103NY	0.01
R279	ERD25FJ102	10K S				R515	ERD25FJ151	150 S	C33	ECBS1C103NY	0.01
R282	ERD25FJ103	10K S	R416	ERD25FJ681	680 S	R516	ERD25FJ153	15K S	C35	ECBS1C103NY	0.01
R294	ERD25TJ154	150K S	R417	ERD25FJ332	3.3K S	R517	ERD25FJ102	1K S	C36	ECBS1C103NY	0.01
R295	ERD25FJ152	1.5K S	R418	ERD25FJ102	1K S	R518	ERD25FJ471	470 S	C38	ECBS1C103NY	0.01
R296	ERD25FJ103	10K S	R419	ERG1ANJ100	10 S						
R297	ERD25TJ154	150K S	R420	ERD25FJ472	4.7K S	R519	ERD25FJ153	15K S	C40	ECFT1E223MD	0.022
R298	ERD25TJ224	220K S	R421	ERD25FJ102	1K S	R520	ERD25TJ154	150K S	C41	ECEA25Z4R7	4.7 S
R301	ERD25FJ222	2.2K S	R422	ERD25FJ101	100 S	R521	ERD25FJ151	150 S	C42	ECBS1C103NY	0.01
R302	ERD25FJ103	10K S	R424	ERD25TJ105	1M S	R522	ERD25FJ331	330 S	C43	ECBS1H6R8KC	6.8P
R303	ERD25FJ222	2.2K S	R426	ERD25TJ104	100K S	R523	ERD25FJ473	47K S	C50	ECBS1C103NY	0.01
R304	ERD25TJ104	100K S	R427	ERD25FJ103	10K S	R524	ERD25FJ150	15 S	C51	ECBS1C103NY	0.01
R305	ERD25FJ682	6.8K S				R525	ERD25FJ101	100 S	C52	ECBS1C103NY	0.01
R306	ERD25FJ222	2.2K S	R428	ERD25FJ333	33K S	R526	ERD25FJ472	4.7K S	C53	ECBS1H1R0ML	1P
R307	ERD25FJ102	1K S	R429	ERD25FJ470	47 S	R527	ERD25FJ153	15K S	C54	ECEA1AS470	47 S
R310	ERD25FJ223	22K S	R430	ERD25FJ272	2.7K S	R528	ERD25FJ103	10K S	C55	ECBS1H3R3KL	3.3P
R311	ERD25FJ223	22K S									
R312	ERD25FJ681	680 S	R431	ERD25FJ152	1.5K S	R529	ERD25FJ221	220 S	C56	ECBS1H181KB	180P
R313	ERD25FJ221	220 S	R432	ERD25FJ471	470 S	R530	ERD25FJ152	1.5K S	C57	ECBS1C103NY	0.01
R315	ERD25FJ221	220 S	R433	ERD25FJ103	10K S	R531	ERD25FJ471	470 S	C58	ECCDLH470KC	47P
R333	ERD25FJ473	47K S	R434	ERD25FJ471	470 S	R532	ERD25FJ682	6.8K S	C59	ECEA1AS470	47 S
R334	ERD25TJ224	220K S	R435	ERD25TJ104	100K S	R533	ERD25FJ151	150 S	C60	ECBS1C103NY	0.01
R335	ERD25TJ474	470K S	R436	ERD25FJ470	47 S	R535	ERD25FJ681	680 S	C61	ECBS1C103NY	0.01
R336	ERD25FJ473	47K S	R437	ERD25FJ470	47 S	R536	ERD25FJ331	330 S	C62	ECBS1C103NY	0.01
R340	ERD25TJ224	220K S	R438	ERD25FJ223	22K S	R537	ERD25FJ103	10K S	C63	ECBS1C103NY	0.01
R341	ERD25FJ223	22K S	R439	ERD25FJ101	100 S	R538	ERD25FJ103	10K S	C65	ECBS1C103NY	0.01
R342	ERD25FJ103	10K S	R441	ERD25FJ223	22K S	R539	ERD25FJ332	3.3K S	C66	ECBS1C103NY	0.01
R343	ERD25FJ682	6.8K S									
R344	ERD25FJ103	10K S	R443	ERD25FJ470	47 S	R540	ERD25FJ101	100 S	C67	ECBS1C103NY	0.01
R345	ERD25FJ103	10K S	R450	ERD25FJ470	47 S	R549	ERD25FJ102	1K S	C68	ECBS1C103NY	0.01
R354	ERD25FJ331	330 S	R451	ERD25FJ101	100 S	R550	ERD25FJ332	3.3K S	C70	ECBS1C103NY	0.01
R356	ERD25FJ222	2.2K S	R455	ERD25FJ222	2.2K S	R551	ERD25FJ101	100 S	C71	ECBS1C103NY	0.01
R357	ERD25FJ222	2.2K S	R456	ERD25FJ103	10K S	R552	ERD25FJ680	68 S	C72	ECQP2A391JZ	390P
R358	ERD25FJ473	47K S	R457	ERD25FJ333	33K S	R553	ERD25FJ222	2.2K S	C73	ECQS2B181JZ	180P
R359	ERD25FJ223	22K S	R458	ERD25FJ103	10K S	R554	ERD25FJ680	68 S	C75	ECBS1H101JL	100P
R360	ERD25FJ473	47K S	R460	ERD25FJ222	2.2K S	R555	ERD25TJ334	330K S	C76	ECBS1H560JL	56P
R361	ERD25FJ473	47K S	R463	ERD25FJ152	1.5K S	R556	ERD25FJ101	100 S	C77	ECBS1H330JC	33P
R362	ERD25FJ473	47K S	R465	ERD25FJ103	10K S	R557	ERD25FJ472	4.7K S	C78	ECQP2A102JA	1000P
R363	ERD25FJ102	1K S	R466	ERD25FJ471	470 S						
R364	ERD25FJ331	330 S	R467	ERD25FJ471	470 S	R558	ERD25TJ683	68K S	C80	ECQP2A51JZ	560P
R365	ERD25FJ471	470 S	R470	ERD25FJ102	1K S	R559	ERD25FJ101	100 S	C81	ECQP2A331JZ	330P
R366	ERD25FJ103	10K S	R471	ERD25TJ104	100K S	R561	ERD25FJ332	3.3K S	C82	ECQS2B151JZ	150P
R367	ERD25FJ333	33K S	R472	ERD25FJ221	220 S	R562	ERD25FJ333	33K S	C83	ECBS1H101JL	100P
R369	ERD25FJ333	33K S				R563	ERD25FJ103	10K S	C85	ECQP2A391JZ	390P
R370	ERD25FJ473	47K S	R473	ERD25FJ331	330 S	R565	ERD25TJ474	470K S	C86	ECQS2B181JZ	180P
R371	ERD25FJ223	22K S	R474	ERD25FJ101	100 S	R566	ERD25FJ473	47K S	C87	ECBS1H101JL	100P
R372	ERD25FJ103	10K S	R475	ERD25FJ331	330 S	R568	ERD25TJ474	470K S	C88	ECBS1H560JL	56P
R373	ERD25FJ103	10K S	R476	ERD25FJ228	22 S	R570	ERD25FJ473	47K S	C100	ECBS1H330JC	33P
R374	ERD25FJ473	47K S	R477	ERD25TJ104	100K S	R571	ERD25FJ332	3.3K S	C101	ECBS1C103NY	0.01
R376	ERD25TJ104	100K S	R478	ERD25FJ223	22K S				C102	ECBS1C103NY	0.01
R377	ERD25FJ473	47K S	R479	ERD25FJ470	47 S	R601	ERD25FJ151	150 S	C103	ECBS1C103NY	0.01
R378	ERD25FJ473	47K S	R480	ERD25FJ150	15 S	R603	ERD25FJ332	3.3K S	C104	ECCDLH050CC	5P
R379	ERD25FJ681	680 S	R482	ERD25FJ222	2.2K S	R701	ERD25FJ103	10K S	C105	ECBS1C103NY	0.01
R380	ERD25FJ103	10K S						C106	ECEA1AS470	47 S	
R381	ERD25TJ104	100K S	R483	ERD25FJ223	22K S			C108	ECCDLH050CC	5P	
R382	ERD25TJ104	100K S	R484	ERD25TJ105	1M S			C109	ECCDLH331K	330P	
R383	ERD25TJ104	100K S	R485	ERD25FJ183	18K S			C110	ECBS1H2R2KL	2.2P	
R385	ERD25TJ104	100K S	R486	ERD25FJ102	1K S			C111	ECFT1E333MD	0.033	
R386	ERD25FJ473	47K S	R487	ERD25FJ471	470 S			C112	ECBS1C103NY	0.01	
R387	ERD25TJ104	100K S	R488	ERD25FJ153	15K S				C113	ECBS1C103NY	0.01
R388	ERD25TJ104	100K S	R489	ERD25FJ223	22K S				C114	ECKDLH102ZF	0.001
R390	ERD25TJ104	100K S	R490	ERD25FJ101	100 S				C115	ECBS1H102KB	0.001
R391	ERD25TJ104	100K S	R491	ERD25FJ152	1.5K S				C116	ECBS1C103NY	0.01
R392	ERD25TJ104	100K S	R493	ERD25FJ221	220 S				C118	ECFT1E473MD	0.047
									C119	ECFT1E473MD	0.047
									C120	ECFT1E473MD	0.047

Ref. No.	Part No.	Value										
C121	ECBS1C103NY	0.01	C228	ECBS1C103NY	0.01	C356	ECBS1C103NY	0.01	C453	ECKD1H102MD	0.001	
C123	ECEA1AS470	47 S	C229	ECBS1C103NY	0.01	C357	ECFT1E333MD	0.033	C454	ECCD1H120KC	12P	
C124	ECFT1E333MD	0.033	C230	ECEA1HSR33	0.33	C358	ECCD1H150KC	15P	C455	ECEA1AS470	47 S	
C125	ECFT1E473MD	0.047	C231	ECEA50Z47	0.47 S	C359	ECFT1C104MD	0.1	C456	ECCD1H330KC	33P	
C126	ECFT1E223MD	0.022	C232	ECEA50Z1	1 S	C360	ECEA0JS471	470 S	C457	ECCD1H220KC	22P	
C127	ECEA50Z1	1 S	C233	ECEA50Z1	1 S	C361	ECEA1AS470	47 S	C458	ECCD1H1R5C	1.5P	
C128	ECQP2A152JZ	1500P	C234	ECEA1AS470	47 S	C362	ECEA1AU102	1000	C460	ECKD1H102MD	0.001	
C129	ECEA1HS100	10 S	C235	ECFT1E223MD	0.022	C363	ECQG05224JZ	0.22	C461	ECBS1H102KB	0.001	
C132	ECFT1E223MD	0.022	C236	ECEA1HSR33	0.33	C365	ECFT1E333MD	0.033	C462	ECBS1H102KB	0.001	
C133	ECEA1CS330	33 S	C237	ECEA1AS470	47 S	C366	ECEA25Z4R7	4.7 S	C463	ECBS1H181KB	180P	
C134	ECEA1AS470	47 S	C238	ECEA1CU332	3300	C367	ECEA1EU330	33	C465	ECCD1H100KC	10P	
C135	ECEA0JU101	100	C245	ECFT1E333MD	0.033	C368	ECKD1H471KB	470P	C466	ECFT1E473MD	0.047	
C136	ECBS1C103NY	0.01	C250	ECEA1AU471	470	C370	ECEA1JS330	33 S	C467	ECBS1H181KB	180P	
C137	ECBS1C103NY	0.01	C251	ECBS1H331KB	330P	C371	ECBS1H6R8KC	6.8P	C468	ECBS1C103NY	0.01	
C138	ECBS1C103NY	0.01	C252	ECBS1H102KB	0.001	C372	ECKD1H103MD	0.01	C470	ECCD1H270KC	27P	
C139	ECEA1AS470	47 S	C253	ECEA1CU221	220	C373	ECBS1H390JL	39P	C471	ECBS1H151KB	150P	
C150	ECBS1C103NY	0.01	C254	ECBS1H101JL	100P	C374	ECBS1H102KB	0.001	C472	ECBS1H102KB	0.001	
C151	ECEA0JU101	100	C255	ECEA25Z4R7	4.7 S	C375	ECBS1H470JL	47P	C473	ECBS1H102KB	0.001	
C152	ECBS1C103NY	0.01	C256	ECEA50Z2R2	2.2 S	C376	ECBS1H330JC	33P	C475	ECEA1AS470	47 S	
C153	ECBT1C223MY	0.022	C257	ECEA1AS470	47 S	C377	ECBS1H102KB	0.001	C476	ECBS1H680JL	68P	
C154	ECEA50Z4R7	0.47 S	C258	ECEA50Z4R7	0.47 S	C378	ECCD1H030C	3P	C477	ECBS1C103NY	0.01	
C155	ECBS1C103NY	0.01	C259	ECBS1E222MX	0.0022	C379	ECBS1H102KB	0.001	C478	ECBS1H121KB	120P	
C156	ECBT1C223MY	0.022	C260	ECEA1HS0R1	0.1	C380	ECEA1AS470	47 S	C479	ECBS1H100JC	10P	
C157	ECBS1C103NY	0.01	C261	ECBS1C103NY	0.01	C381	ECCD1H020C	2P	C480	ECKD1H102ZF	0.001	
C158	ECBS1C103NY	0.01	C262	ECQP2A331JZ	330P	C382	ECEA1AS470	47 S	C481	ECCD1H470KC	47P	
C159	ECEA0JU101	100	C263	ECQP2A471JZ	470P	C383	ECBS1H6R8KC	6.8P	C482	ECBS1H220JC	22P	
C160	ECBS1C103NY	0.01	C264	ECBS1C103NY	0.01	C384	ECEA25Z4R7	4.7 S	C483	ECBS1H680JL	68P	
C161	ECBS1H330JC	33P	C265	ECQP2A331JZ	330P	C385	ECKD1H102MD	0.001	C484	ECFT1E103MD	0.01	
C162	ECEA1AS470	47 S	C266	ECQP2A471JZ	470P	C386	ECBS1H102KB	0.001	C485	ECBS1H102KB	0.001	
C163	ECBS1C103MY	0.01	C267	ECBS1C103NY	0.01	C387	ECBS1H102KB	0.001	C486	ECBS1H102KB	0.001	
C165	ECBS1C103NY	0.01	C268	ECEA1HS100	10 S	C388	ECBS1H102KB	0.001	C487	ECFT1E103MD	0.01	
C166	ECBS1C103MY	0.01	C269	ECEA1HS100	10 S	C389	ECBS1H102KB	0.001	C488	ECBS1C103NY	0.01	
C168	ECBS1H101JL	100P	C270	ECEA25Z4R7	4.7 S	C390	ECBS1H120JL	12P	C489	ECCD1H470KC	47P	
C169	ECEA1HS0R1	0.1	C271	ECEA1HSR22	0.22	C391	ECBS1H181KB	180P	C501	ECCD1H470KC	47P	
C170	ECEA0JU101	100	C295	ECCD1H220K	22P	C392	ECBS1H102KB	0.001	C502	ECBS1H100JC	10P	
C171	ECFT1C683MD	0.068	C296	ECCD1H330K	33P	C393	ECBS1H102KB	0.001	C503	ECBS1H1R5ML	1.5P	
C172	ECBS1C103NY	0.01	C298	ECCD1H101K	100P	C395	ECCD1H020C	2P	C505	ECCD1H470KC	47P	
C173	ECCD1H270KC	27P	C299	ECCD1H101K	100P	C397	ECKD1H471K	470P	C506	ECBS1H100JC	10P	
C174	ECFT1E333MD	0.033	C301	ECFT1E223MD	0.022	C400	ECBS1H390JL	39P	C507	ECBS1H102KB	0.001	
C175	ECBS1C103MY	0.01	C302	ECEA1HSR22	0.22	C508	ECBS1H4R7KL	4.7P	C509	ECBS1C103NY	0.01	
C176	ECBS1C103NY	0.01	C303	ECKD1H472MD	0.0047	C401	ECEA0JU101	100	C510	ECBS1H102KB	0.001	
C177	ECBS1C103NY	0.01	C304	ECEA25Z4R7	4.7 S	C403	ECBS1H820JL	82P	C512	ECBS1H101JL	100P	
C178	ECBS1H390JL	39P	C305	ECFT1E333MD	0.033	C404	ECBS1C103NY	0.01	C513	ECKD1H103MD	0.01	
C179	ECBS1H102KB	0.001	C306	ECEA1HSR33	0.33	C405	ECQG05224JZ	0.22	C514	ECKD1H103MD	0.01	
C180	ECBS1C103NY	0.01	C308	ECFT1E473MD	0.047	C406	ECBS1H390JL	39P	C515	ECBS1H330JC	33P	
C181	ECFT1C683MD	0.068	C309	ECEA25Z4R7	4.7 S	C407	ECQG05224JZ	0.22	C516	ECBS1H100JC	10P	
C182	ECBS1H3R3KL	3.3P	C310	ECKD1H102MD	0.001	C408	ECEA25M4R7	4.7	C517	ECKD1H103ZF	0.01	
C183	ECBS1H680JL	68P	C311	ECKD1H103MD	0.01	C409	ECBS1C103NY	0.01	C518	ECKD1H103MD	0.01	
C184	ECBS1H100JC	10P	C312	ECBS1H102KB	0.001	C410	ECEA25M4R7	4.7	C519	ECEE0JU101	100	
C185	ECBS1H102KB	0.001	C313	ECKD1H472MD	0.0047	C411	ECBS1H102KB	0.001	C520	ECBS1H102KB	0.001	
C186	ECBS1H2R2KL	2.2P	C322	ECBS1H102KB	0.001	C412	ECBS1H6R8KC	6.8P	C521	ECBS1C103NY	0.01	
C187	ECBS1H390JL	39P	C325	ECEA1HS100	10 S	C413	ECBS1H390JL	39P	C522	ECFT1E223MD	0.022	
C200	ECBS1H102KB	0.001	C326	ECBS1C103NY	0.01	C414	ECFT1E683MD	0.068	C523	ECBS1C103NY	0.01	
C202	ECBS1C103NY	0.01	C327	ECEA1AU101	100	C415	ECBS1H270JL	27P	C524	ECKD1H222MD	0.0022	
C205	ECBS1H102KB	0.001	C329	ECBS1C103NY	0.01	C416	ECBS1H102KB	0.001	C525	ECBS1H102KB	0.001	
C206	ECBS1H120JC	12P	C330	ECBS1E472MX	0.0047	C417	ECEA1AS470	47 S	C527	ECQF1225KN	2.2	
C207	ECBS1C103NY	0.01	C331	ECEA0JU101	100	C418	ECBS1H6R8KC	6.8P	C529	ECBS1H102KB	0.001	
C208	ECBS1H220JC	22P	C332	ECBS1E472MX	0.0047	C420	ECBS1H102KB	0.001	C530	ECBS1C103NY	0.01	
C209	ECBS1C103NY	0.01	C333	ECBS1C103NY	0.01	C421	ECBS1H100JC	10P	C531	ECEA1HSR22	0.22	
C210	ECBS1H560JL	56P	C334	ECBS1C103NY	0.01	C422	ECBS1C103NY	0.01	C532	ECEA1HS0R1	0.1	
C211	ECBS1H100JC	10P	C339	ECFT1E223MD	0.022	C423	ECBS1H6R8KC	6.8P	C533	ECEA1HS0R1	0.1	
C212	ECBS1H100JC	10P	C340	ECEA50Z2R2	2.2 S	C426	ECFT1E473MD	0.047	C534	ECEA25Z4R7	4.7 S	
C213	ECBS1H180JC	18P	C341	ECFT1E473MD	0.047	C427	ECQG1H333MD	0.033	C535	C539	ECEA1AS470	47 S
C214	ECEA25Z4R7	4.7 S	C342	ECEA1HS100	10 S	C428	ECEA1HSR22	0.22	C536	ECEA25M4R7	4.7	
C215	ECBS1H220JC	22P	C343	ECBS1H471KB	470P	C430	ECBS1H102KB	0.001	C537	ECEA25M4R7	4.7	
C216	ECBS1H120JC	12P	C344	ECBS1H471KB	470P	C431	ECBS1C103NY	0.01	C538	ECFT1C104MD	0.1	
C217	ECBS1H100JC	12P	C345	ECKD1H471KB	470P	C432	ECFT1E223MD	0.022	C539	ECEA1AS470	47 S	
C218	ECBS1H102KB	0.001	C346	ECKD1H471KB	470P	C433	ECFT1E103MD	0.01	C540	ECEA25Z4R7	4.7 S	
C219	ECEA1HS100	10 S	C347	ECBS1H471KB	470P	C434	ECEA1AS470	47 S	C541	C570	ECKD1H103ZF	0.01
C220	ECBS1C103NY	0.01	C348	ECBS1H471KB	470P	C435	ECEA0JU221	220	C542	ECKD1H103ZF	0.01	
C221	ECBS1H102KB	0.001	C349	ECEA50Z3R3	3.3 S	C436	ECBS1H102KB	0.001	C543	ECKD1H103ZF	0.01	
C222	ECFT1E103MD	0.01	C350	ECFT1C104MD	0.1	C437	ECBS1H102KB	0.001	C544	ECEA1AS470	47 S	
C223	ECBS1H102KB	0.001	C351	ECBS1H820JL	82P	C438	ECEA50Z4R7	0.47 S	C545	ECEA25Z4R7	4.7 S	
C224	ECBS1H3R9KL	3.9P	C352	ECBS1H100JC	10P	C439	ECQG05224JZ	0.22	C546	C570	ECKD1H103ZF	0.01
C225	ECBS1H270JC	27P	C353	ECBS1H101JL	100P	C440	ECBS1H1R5ML	1.5P	C547	ECKD1H103ZF	0.01	
C226	ECBS1H270JC	27P	C354	ECEA0JU222	2200	C441	ECCD1H101K	100P	C548	ECKD1H103ZF	0.01	
C227	ECBS1H270JC	27P	C355	ECEA0JU101	100	C442	ECCD1H050C	5P	C549	ECKD1H103ZF	0.01	

# ABGLEICH

## ■ VORGANGSWEISE BEIM ABGLEICH

REGLEREINSTELLUNGEN UND VORBEREITUNGEN	
<b>Hinweise:</b>	
1. Den Radioschalter einschalten.	9. Den Anzeigeschalter einschalten.
2. Den KW-Antennenschalter auf „LOW IMP.“ stellen.	10. Den Abstimm-feststellschalter ausschalten.
3. Den AM-HF-Verstärkungsregler auf „DX“ stellen.	11. Den KW-Autoabstimmsschalter auf „MANUAL“ stellen.
4. Den Lautstärkeregler auf „MAX“ stellen.	12. Die folgende Frequenzen abspeichern: Kanal 1 ... 5,050MHz Kanal 6 ... 550kHz Kanal 2 ... 150kHz Kanal 7 ... 1500kHz Kanal 3 ... 420kHz Kanal 8 ... 90,0MHz Kanal 4 ... 155kHz Kanal 9 ... 106,0MHz Kanal 5 ... 405kHz
5. Den Baß- und Höhenregler auf „0“ stellen.	
6. Den Rauschbegrenzerschalter ausschalten.	
7. Den Bandbreitenschalter auf „WIDE“ stellen.	
8. Den Anzeigeschalter auf „TUNING/SIGNAL“ stellen.	
BENÖTIGTE MESSGERÄTE	
1. Frequenzzähler	4. Gleichstrom-Digitalvoltmeter
2. Oszilloskop (Zweifache Anzeige)	5. Ampermeter
3. HF-Voltmeter	6. Signalgenerator

PM-Lautsprecher,  
0~115/115~127/200~  
, 50/60Hz  
(acht  
ckenbatterien der  
Be „D“ National UM-1  
)  
(drei  
ckenbatterien der  
Be „AA“ National UM-  
ä.) ... Reservestrom-  
sorgung für Speicher  
über den auto adapter

ngang (13,2V)

gang

uchse (3,5φ)

gang (3,5φ, 2,5kΩ)

uchse

echer-/Ohrhörerbuchse

use (6φ, 8Ω)

ntennen

r in M-Ausführung)

n (75Ω)

ntennen

1 mm

behalten.

## ■ ABGLEICH DER ABSTIMMUNG

Hinweis: Für das Einsetzen der Dioden (D601, 602) und der Transistoren (Q601, 602) wird auf Abb. 24 verwiesen.

OSZILLOSKOP		EINSTELLUNG	BEMERKUNGEN
KANAL 1	KANAL 2		
CS24 ①...(+) ④,⑤...(-)	CS24 ②...(+) ④,⑤...(-)	D601, Q601	(1) Das Oszilloskop auf Kanal 2 einstellen. (2) Eine Gleichspannung von 5V anlegen und das Oszilloskop auf 5V einstellen. (3) Die Abstimmreglerwelle drehen und die höchste und niedrigste Spannung ablesen. (4) Falls die Spannung nicht auf die folgenden Werte eingestellt werden kann, muß der Abstand zwischen D601 und Q601 eingestellt werden. Höchste Spannung ... mehr als 4,0V Niedrigste Spannung ... weniger als 0,9V Wenn die höchste Spannung nicht eingestellt werden kann ... den Abstand zwischen D601 und Q601 verringern. Wenn die niedrigste Spannung nicht eingestellt werden kann ... den Abstand zwischen D601 und Q601 vergrößern.
"	"	VR601	(1) Das Oszilloskop auf Kanal 1 einstellen. (2) Eine Gleichspannung von 5V anlegen und das Oszilloskop auf 5V einstellen. (3) Die Abstimmreglerwelle drehen und die höchste und niedrigste Spannung ablesen. (4) Den VR601 so einstellen, daß auf dem Oszilloskop 4,5V angezeigt werden.
"	"	—	(1) Die Abstimmreglerwelle drehen und den Punkt ablesen, bei welchem die Spannungen (höchste und niedrigste) von den Kanälen 1 und 2 gleich sind. (2) Falls die folgenden Werte nicht eingestellt werden können, muß der Schritt 1 neu eingestellt werden. Höchste Spannung ... mehr als 3,6V Niedrigste Spannung ... weniger als 1,4V

## ■ UKW-ZF- UND AM-ZF-ABGLEICH

WEL-LEN-BAND	WOBBELOSZILLATOR		ABGLEICH	BEMERKUNGEN
	AUSGANG	EINGANG		
<b>UKW-ZF-ABGLEICH</b>				
UKW	▼ ... (+)	▼ ... (+) ▼ ... (-)	T2 (1. ZF-Abgleich) T3. (2. ZF-Abgleich)	Die Maximalamplitude einstellen. (Siehe Abb. 26.)
	"	▼ ... (+) ▼ ... (-)	T9 (3. ZF-Abgleich)	Die Maximalamplitude einstellen. (Siehe Abb. 27)
<b>AM-ZF-ABGLEICH</b>				
MW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	▼ ... (+) ▼ ... (-)	T5 (1. ZF-Abgleich) T10 (2. ZF-Abgleich)	Die maximale Ausgangsleistung einstellen.
	"	"	T4	Die minimal Ausgangsleistung einstellen.

Hinweis: Kontrollieren, ob sich die Mittenfrequenz beim Umsetzen des Bandbreitenschalters nicht zu stark verändert.

## ■ ABGLEICH DES SCHWEBUNGSSOZILLATORS

WEL-LEN-BAND	FREQUENZZÄHLER	ABGLEICH	BEMERKUNGEN	
KW	▼ ... (+) ▼ ... (-)	CT8	(1) Den AM-Betriebsartenschalter auf „UBS“ (oberes Seitenband) stellen. (2) Den CT8 so einstellen, daß auf dem Frequenzzähler $451,5 \pm 0,3\text{kHz}$ angezeigt werden.	
	"	CT9	(1) Den AM-Betriebsartenschalter auf „LBS“ (unteres Seitenband) stellen. (2) Den CT9 so einstellen, daß auf dem Frequenzzähler $448,5 \pm 0,3\text{kHz}$ angezeigt werden.	

**RF-B600LBS DEUTSCH****■ TECHNISCHE DATEN**

UKW		Allgemeine Daten	
Frequenzbereich:	87,5 ~ 108MHz	Lautsprecher:	dynamischer PM-Lautsprecher, φ9cm
ZF:	10,7MHz	Ausgangsleistung:	max. 2,0W eff.
Empfindlichkeit:	2,5µV/75Ω (-3dB, Grenzempfindlichkeit) 2,5µV/75Ω (Rauschabstand 26dB)	Stromversorgung:	Netzstrom 110 ~ 115/115 ~ 127/200 ~ 220/230 ~ 250V, 50/60Hz Batterien; 12V (acht)
Spiegelselektion:	30dB (bei 98MHz)		Trockenbatterien der Größe „D“ National UM-1 o.ä.) 4,5V (drei Trockenbatterien der Größe „AA“ National UM- 3 o.ä.) ... Reservestrom- versorgung für Speicher
Zweisignal-Tremnschärfe:	70dB (± 400kHz)		Auto batterie; über den auto adapter RP-952
LW		Leistungsaufnahme:	
Frequenzbereich:	150 ~ 420kHz (2,000 ~ 714m)	Buchsen:	12W Gleichstromeingang (13,2V) Netzstromeingang Bereitschaftsbuchse (3,5φ) Aufnahmeausgang (3,5φ, 2,5kΩ) 5-polige DIN-Buchse Außenlautsprecher-/Ohrhörerbuchse (3,5φ, 8Ω)
ZF:	450kHz		Kopfhörerbuchse (6φ, 8Ω)
Empfindlichkeit:	Rauschabstand 6dB; 70µV/m (bei 280kHz)		Außenantennenklemmen: LW/MW/KW Antennen (Steckverbinder in M-Ausführung) (50 ~ 75Ω)
	Rauschabstand 26dB; 600µV/m (bei 280kHz)		UKW Antennen (75Ω)
Trennschärfe:	Breitband; ± 3,5kHz (-6dB) ± 7kHz (-60dB)		KW Antennen
	Schmalband; ± 1,5kHz (-6dB) ± 4kHz (-60dB)		LW/MW/KW Antennen
Spiegelselektion:	35dB (bei 280kHz)		Abmessungen (B x H x T): 376 x 122 x 291 mm
MW			Gewicht: 4,6kg
Frequenzbereich:	520 ~ 1,610kHz (577 ~ 186m)		Anderungen der technischen Daten jederzeit vorbehalten.
ZF:	450kHz		
Empfindlichkeit:	Rauschabstand 6dB; 35µV/m (bei 1.000kHz)		
	Rauschabstand 26dB; 400µV/m (bei 1.000kHz)		
Trennschärfe:	Breitband; ± 3,5kHz (-6dB) ± 7kHz (-60dB)		
	Schmalband; ± 1,5kHz (-6dB) ± 4kHz (-60dB)		
Spiegelselektion:	40dB (bei 1.000kHz)		
SW			
Typ:	Doppelsuperhet mit Phasengegenkopplung und Frequenzsynthese		
Frequenzbereich:	1,6110 ~ 29,9999MHz (186 ~ 10m)		
ZF:	1. ZF; 39,9 ~ 40,0MHz 2. ZF; 450kHz		
Empfindlichkeit:	Rauschabstand 6dB; 1,2µV (50Ω) (bei 6MHz)		
(Modulation 400Hz, 30% für 50mW)	Rauschabstand 26dB; 10µV (50Ω) (bei 6MHz)		
Trennschärfe:	Breitband; ± 3,5kHz (-6dB) ± 7kHz (-60dB)		
	Schmalband; ± 1,5kHz (-6dB) ± 4kHz (-60dB)		
Spiegelselektion:	50dB (bei 6MHz)		
Frequenzstabilität:	Nach dem Anwärmen innerhalb von 50Hz während einer stunde		

**ABGLEICH****■ VORGANGSWEISE BEIM ABGLEICH**

REGLEREINSTELLUNGEN UND VORBEREITUNGEN	
<b>Hinweise:</b>	
1. Den Radioschalter einschalten.	9. Den Anzeigeschalter einschalten.
2. Den KW-Antennenschalter auf „LOW IMP.“	10. Den Abstimm-feststellschalter ausschalten.
stellen.	11. Den KW-Autoabstimmsschalter auf „MANUAL“
3. Den AM-HF-Verstärkungsregler auf „DX“	stellen.
stellen.	12. Die folgende Frequenzen abspeichern:
4. Den Lautstärkeregler auf „MAX“ stellen.	Kanal 1 ... 5,050MHz Kanal 8 ... 550kHz
5. Den Baß- und Höhenregler auf „0“ stellen.	Kanal 2 ... 150kHz Kanal 7 ... 1500kHz
6. Den Rauschbegrenzerschalter ausschalten.	Kanal 3 ... 420kHz Kanal 8 ... 90,0MHz
7. Den Bandbreitenschalter auf „WIDE“ stellen.	Kanal 4 ... 155kHz Kanal 9 ... 106,0MHz
8. Den Anzeigeschalter auf „TUNING/SIGNAL“	Kanal 5 ... 405kHz
stellen.	

BENÖTIGTE MESSGERÄTE	
1. Frequenzzähler	4. Gleichstrom-Digitalvoltmeter
2. Oszilloskop (Zwelfache Anzeige)	5. Ampermeter
3. HF-Voltmeter	6. Signalgenerator

**■ ABGLEICH DER ABSTIMMUNG**

**Hinweis:** Für das Einsetzen der Dioden (D601, 602) und der Transistoren (Q601, 602) wird auf Abb. 24 verwiesen.

OSZILLOSKOP		EINSTELLUNG	BEMERKUNGEN
KANAL 1	KANAL 2		
CS24 ①...(+) ④,⑤...(-)	CS24 ②...(+) ④,⑤...(-)	D601, Q601	(1) Das Oszilloskop auf Kanal 2 einstellen. (2) Eine Gleichspannung von 5V anlegen und das Oszilloskop auf 5V einstellen. (3) Die Abstimmreglerwelle drehen und die höchste und niedrigste Spannung ablesen. (4) Falls die Spannung nicht auf die folgenden Werte eingestellt werden kann, muß der Abstand zwischen D601 und Q601 eingestellt werden. Höchste Spannung ... mehr als 4,0V Niedrigste Spannung ... weniger als 0,9V Wenn die höchste Spannung nicht eingestellt werden kann ... den Abstand zwischen D601 und Q601 verringern. Wenn die niedrigste Spannung nicht eingestellt werden kann ... den Abstand zwischen D601 und Q601 vergrößern.
"	"	VR601	(1) Das Oszilloskop auf Kanal 1 einstellen. (2) Eine Gleichspannung von 5V anlegen und das Oszilloskop auf 5V einstellen. (3) Die Abstimmreglerwelle drehen und die höchste und niedrigste Spannung ablesen. (4) Den VR601 so einstellen, daß auf dem Oszilloskop 4,5V angezeigt werden.
"	"	—	(1) Die Abstimmreglerwelle drehen und den Punkt ablesen, bei welchem die Spannungen (höchste und niedrigste) von den Kanälen 1 und 2 gleich sind. (2) Falls die folgenden Werte nicht eingestellt werden können, muß der Schritt 1 neu eingestellt werden. Höchste Spannung ... mehr als 3,6V Niedrigste Spannung ... weniger als 1,4V

**ABGLEICH DES OSZILLATORS 4,5MHz, 35,6636MHz, DER 2. EINSPEISUNG UND DES SPANNUNGSGESTEUERTEN KW- UND UKW-OSZILLATORS**

VEL- LEN- AND	ANZEIGE	GLEICHSTROM- DIGITAL- VOLTMETER	HF- VOLTMETER	FREQUENZ ZÄHLER	ABGLEICH	BEMERKUNGEN
<b>OSZILLATORABGLEICH 4,5MHz</b>						
N	5.000MHz	—	—	$\nabla^{\text{30}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	CT301	Den CT301 so einstellen, daß auf dem Frequenzzähler 4,5000MHz $\pm 20\text{Hz}$ angezeigt werden.
<b>OSZILLATORPEGELEINSTELLUNG 35,6636MHz</b>						
N	2.000MHz	—	$\nabla^{\text{30}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	—	T306	Den T306 0,5dB unter den, auf dem HF-Voltmeter angezeigten Höchstwert einstellen.
<b>ABGLEICH DER 2. EINSPEISUNG</b>						
N	5.05MHz	—	$\nabla^{\text{30}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	—	T303-305, T307	Den T305, 304, 303 und 307 so einstellen, daß auf dem HF-Voltmeter der höchste Wert angezeigt wird.
<b>OSZILLATORFREQUENZABGLEICH 35,6636MHz</b>						
N	5.000MHz	—	—	$\nabla^{\text{30}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	CT306	Den CT306 so einstellen, daß auf dem Frequenzzähler 39.550 MHz $\pm 300\text{Hz}$ angezeigt werden.
<b>ABGLEICH DES SPANNUNGSGESTEUERTEN KW-OSZILLATORS</b>						
N	29,9MHz	$\nabla^{\text{30}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	—	—	CT304	Den CT304 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $8,0V \pm 0,2V$ angezeigt werden.
N	16,8MHz	"	—	—	CT303	Den CT303 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $8,2V \pm 0,2V$ angezeigt werden.
N	5,0MHz	$\nabla^{\text{30}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	—	—	CT305	Den CT305 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $9,0V \pm 0,2V$ angezeigt werden.
<b>ABGLEICH DES SPANNUNGSGESTEUERTEN UKW-OSZILLATORS</b>						
KW	87,5MHz	$\nabla^{\text{30}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	—	—	L303	Den L303 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $1,0V \pm 0,1V$ angezeigt werden.
KW	108MHz	"	—	—	CT302	Den CT302 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $8,0V \pm 0,2V$ angezeigt werden.

**EINSTELLUNG DER DREHKONDENSATORSPANNUNG, DER LW/MW-HOCHFREQUENZ, DER UKW-HOCHFREQUENZ UND DER ANZEIGE**

WEL- LEN- BAND	SIGNALGENERATOR	ANZEIGE	GLEICHSTROM- DIGITALVOLTMETER	ABGLEICH	BEMERKUNGEN
	ANSCHLUSS	FREQUENZ			
<b>ABGLEICH DER DREHKONDENSATORSPANNUNG</b>					
LW	—	150kHz (Kanal 2)	$\nabla^{\text{12}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	L9	Den L9 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $1,1V \pm 0,05V$ angezeigt werden.
	—	420kHz (Kanal 3)	"	CT6	Den CT6 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $7V \pm 0,2V$ angezeigt werden.
MW	—	520kHz	"	L8	Den L8 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $1V \pm 0,05V$ angezeigt werden.
	—	1610kHz	"	CT2	Den CT2 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $8,2V \pm 0,2V$ angezeigt werden.
<b>LW/MW-HF-ABGLEICH</b>					
LW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	155kHz	155kHz (Kanal 4)	—	L7-1
	"	405kHz	405kHz (Kanal 5)	CT3	Die maximale Ausgangsleistung einstellen.
MW	"	550kHz	550kHz (Kanal 6)	—	L7-2
	"	1,500kHz	1,500kHz (Kanal 7)	CT5	Die maximale Ausgangsleistung einstellen.
<b>UKW-HF-ABGLEICH</b>					
UKW	Über eine künstliche UKW-antenne an den Meßpunkt $\nabla$ anschließen. Den negativen Ausgang an den Meßpunkt $\nabla$ anschließen.	90MHz	90MHz (Kanal 8)	—	L27
	"	106MHz	106MHz (Kanal 9)	—	CT1
<b>EINSTELLUNG DER ANZEIGE</b>					
UKW	"	90MHz (100dB)	90MHz (Kanal 8)	—	VR1
					Den VR1 so einstellen, daß auf der Abstimmanzeige mehr als „8“ angezeigt wird.

**ABGLEICH DER KW-ZWISCHENFREQUENZ, DER SPIEGELFREQUENZ UND DER VERSTÄRKUNG**

EL- EN- AND	SIGNALGENERATOR	ANZEIGE	ABGLEICH	BEMERKUNGEN
	ANSCHLUSS	FREQUENZ		
<b>KW-ZF-ABGLEICH</b>				
N	$\nabla^{\text{10}^{\circ}}$ ... (+) $\nabla^{\text{9}^{\circ}}$ ... (-)	5.050MHz (Kanal 1)	T7, 8, 11~4	Die maximale Ausgangsleistung einstellen.
<b>KW-SPIEGELFREQUENZABGLEICH</b>				
N	"	5.950MHz	5.050MHz (Kanal 1)	CT7
				Die minimal Ausgangsleistung einstellen.
<b>KW-VERSTÄRKUNGSABGLEICH</b>				
N	"	5.050MHz (18dB)	VR2	Den VR2 so einstellen, daß auf dem Feldstärke-Anzeige „9“ angezeigt wird.

**Bemerkungen**

1. S1: KW-Antennenumsch (1 ... HIGH IMP, 3 ...
2. S2-1, S2-2: AM-Betriebs S2-1 (4 ... AM S2-2 (3 ... AM
3. S3: Bandreitenumschalt (3 ... WIDE, 2 ... NAR
4. S4: Radio-Schalter/Anze
5. S5: Schalter für automat „OFF“, (2 ... ON, 3 ..
6. S701: ... Wahlschalter fü Wechselstrombetrieb au
7. S702: Netzspannungswä
8. VR1: Spannungsregler zu pegels.
- VR2: Spannungsregler zu Verstärkung.
9. Alle Gleichspannungen : meter vom negativen Ba < > ... Stellung „FM“, ... Stellung „SW“
10. Batteriestrom: ohne sig bei maxin 680mA (S
11. Zur Betriebssicherheit Die im Schaltplan mit  $\Delta$  für einen sicheren Betrie wichtig und sollten daher ersetzt werden.
12. Falls eine Diode (D3, D4 müssen alle drei Dioden getauscht werden.

**EINSTELLUNG DER DREHKONDENSATORSPANNUNG, DER LW/MW-HOCHFREQUENZ, DER UKW-HOCHFREQUENZ UND DER ANZEIGE**

WELLENBAND	SIGNALGENERATOR ANSCHLUSS	FREQUENZ	ANZEIGE	GLEICHSTROM-DIGITALVOLTMETER	ABGLEICH	BEMERKUNGEN
<b>ABGLEICH DER DREHKONDENSATORSPANNUNG</b>						
LW	—	150kHz (Kanal 2)	▼ ... (+) ▼ ... (-)	L9	Den L9 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $1.1V \pm 0.05V$ angezeigt werden.	
	—	420kHz (Kanal 3)	"	CT6	Den CT6 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $7V \pm 0.2V$ angezeigt werden.	
MW	—	520kHz	"	L8	Den L8 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $1V \pm 0.05V$ angezeigt werden.	
	—	1610kHz	"	CT2	Den CT2 so einstellen, daß auf dem Gleichstrom-Digitalvoltmeter $8.2V \pm 0.2V$ angezeigt werden.	
<b>LW/MW-HF-ABGLEICH</b>						
LW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	155kHz	155kHz (Kanal 4)	—	L7-1	Die maximale Ausgangsleistung einstellen.
	"	405kHz	405kHz (Kanal 5)	—	CT3	Die maximale Ausgangsleistung einstellen.
MW	"	550kHz	550kHz (Kanal 6)	—	L7-2	Die maximale Ausgangsleistung einstellen.
	"	1,500kHz	1500kHz (Kanal 7)	—	CT5	Die maximale Ausgangsleistung einstellen.
<b>UKW-HF-ABGLEICH</b>						
UKW	Über eine künstliche UKW-antenne an den Meßpunkt ▼ anschließen. Den negativen Ausgang an den Meßpunkt ▽ anschließen.	90MHz	90MHz (Kanal 8)	—	L27	Die maximale Ausgangsleistung einstellen.
		106MHz	106MHz (Kanal 9)	—	CT1	Die maximale Ausgangsleistung einstellen.
<b>EINSTELLUNG DER ANZEIGE</b>						
UKW	"	90MHz (100dB)	90MHz (Kanal 8)	—	VR1	Den VR1 so einstellen, daß auf der Abstimmmanzeige mehr als „8“ angezeigt wird.

**BEZEICHNUNGEN IN DER SCHEMATISCHEN DARSTELLUNG**

**Bemerkungen**

1. S1: KW-Antennenumschalter auf „HIGH IMP“ (1 ... HIGH IMP, 3 ... LOW IMP)
2. S2-1, S2-2: AM-Betriebsartenwähler auf „AM“  
S2-1 (4 ... AM, 3 ... USB, 2 ... LSB)  
S2-2 (3 ... AM, 2 ... USB, 1 ... LSB)
3. S3: Bandreitenumschalter auf „WIDE“ (3 ... WIDE, 2 ... NARROW)
4. S4: Radio-Schalter/Anzeige auf „OFF“
5. S5: Schalter für automatische AM-Störbegrenzung auf „OFF“. (2 ... ON, 3 ... OFF)
6. S701: ... Wahlschalter für Gleichstrom-oder Wechselstrombetrieb auf „DC IN“.
7. S702: Netzspannungswähler
8. VR1: Spannungsregler zur Einstellung des Anzeigepegels.
9. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.  
< > ... Stellung „FM“, ( ) ... Stellung „LW/MW“, [ ] ... Stellung „SW“
10. Batteriestrom: ohne signal ... 200mA (MW) bei maximaler Ausgangsleistung ... 680mA (SW)
11. Zur Betriebssicherheit  
Die im Schaltplan mit  $\Delta$  gekennzeichneten Bauteile sind für einen sicheren Betrieb dieses Gerätes besonders wichtig und sollten daher nur durch Originalbauteile ersetzt werden.
12. Falls eine Diode (D3, D4 oder D7) ersetzt werden muß, müssen alle drei Dioden (D3, D4 und D7) zusammen ausgetauscht werden.

**Bemerkungen:**

1. S301: Abstimmverriegelungs-Schalter auf „OFF“. (5 ... ON, 6 ... OFF)
2. S303-1, S303-2: Anzeige-Umschalter auf „TUNING/SIGNAL“ (4, 3 ... TUNING/SIGNAL, 5, 2 ... BATT)
3. S304: Abstimmgeschwindigkeits-Umschalter auf „SLOW“. (4 ... SLOW, 5 ... FAST)
4. S305 – S307: Wahlschalter für automatische KW-Zonen-Abstimmung (S305 ... MANUAL, S306 ... SCAN, S307 ... SEEK)
5. S308: Anzeigenbeleuchtungs-Schalter auf „OFF“.
6. S309: Display-Schalter auf „OFF“.
7. S310: LW-Schalter.
8. S311: MW-Schalter.
9. S312: KW-Schalter.
10. S313: UKW-Schalter.
11. S314: Speichertaste.
12. S315: Direkt-Taste.
13. S316: Eingabetaste.
14. S317: Stopaste.
15. S318: Speichersuchlauf-Taste.
16. S319: Direkt-Taste (8).
17. S320: Direkt-Taste (9).
18. S321: Obere-Taste.
19. S322: Sinken-Taste.
20. S323: Direkt-Taste (4).
21. S324: Direkt-Taste (5).
22. S325: Direkt-Taste (6).
23. S326: Direkt-Taste (7).
24. S327: Direkt-Taste (0).
25. S328: Direkt-Taste (1).
26. S329: Direkt-Taste (2).
27. S330: Direkt-Taste (3).
28. VR301, 302: Baßregler/Höhenregler  
VR303: Lautstärkeregler  
VR304: AM-HF-Verstärkungsregler.
29. VR601: Abstimm-Spannungskonstanthalter.
30. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.  
< > ... Stellung „FM“, ( ) ... Stellung „LW/MW“, [ ] ... Stellung „SW“

Display  
UKW ... 88,1MHz, LW ... 330kHz, MW ... 1000kHz,  
KW ... 10MHz

# ALIGNEMENTS

## ■ INSTRUCTIONS D'ALIGNEMENT

REGLAGE DES COMMANDES ET PREPARATION	
<b>Remarques:</b>	
1. Placer l'interrupteur de marche.	9. Placer l'interrupteur d'affichage sur la position de marche.
2. Placer l'interrupteur "SW ANT" (antenne PO) sur la position "LOW IMP" (impédance basse).	10. Placer l'interrupteur de verrouillage de syntonisation sur la position d'arrêt.
3. Placer la commande de gain RF AM sur la position "DX".	11. Placer le sélecteur de syntonisation automatique dans la zone "SW" (PO) sur la position "MANUAL" (manuel).
4. Régler la commande de volume au maximum.	12. Entrer en mémoire les fréquences suivantes:
5. Régler les commandes des basses et des aigus sur "0".	Canal 1... 5,050 MHz Canal 6... 550 kHz
6. Placer l'interrupteur "AM ANT" (antenne AM) sur la position d'arrêt.	Canal 2... 150 kHz Canal 7... 1,500 kHz
7. Placer l'interrupteur de largeur de bande sur la position "WIDE" (large).	Canal 3... 420 kHz Canal 8... 90,0 MHz
8. Placer l'interrupteur d'indicateur sur la position "TUNING/SIGNAL" (syntonisation/signal).	Canal 4... 155 kHz Canal 9... 106,0 MHz
	Canal 5... 405 kHz
APPAREILS NECESSAIRES	
<b>APPAREILS NECESSAIRES</b>	
1. Compteur de fréquence.	4. Voltmètre digital CC.
2. Oscilloscope (à double trace).	5. Ampèremètre.
3. Voltmètre RF.	6. Générateur de signal.

## ■ ALIGNEMENT DU BLOC D'ALIMENTATION

Remarque: Pour la mise en place des diodes (D601, 602) et des transistors (Q601, 602), se reporter à la figure 24.

OSCILLOSCOPE		REGLAGE	OBSERVATIONS
Canal 1	Canal 2		
CS24 ①...(+) ④, ⑤...(-)	CS24 ②...(+) ④, ⑤...(-)	D601, Q601	(1) Régler l'oscilloscope sur le canal 2. (2) Appliquer un signal 5 V CC et régler l'oscilloscope sur 5 V. (3) Tourner l'arbre de syntonisation et lire la tension la plus basse et la tension la plus élevée. (4) Si les tensions ne peuvent pas être réglées aux valeurs suivantes, régler l'espace entre D601 et Q601. Tension la plus élevée... Plus de 4,0 V Tension la plus basse... Moins de 0,9 V Lorsque la tension la plus élevée ne correspond pas à la valeur indiquée ci-dessus, réduire l'espace entre D601 et Q601. Lorsque la tension la plus basse ne correspond pas à la valeur indiquée ci-dessus, augmenter l'espace entre D601 et Q601.
"	"	VR601	(1) Régler l'oscilloscope sur le canal 1. (2) Appliquer un signal d'entrée de 5 V CC et régler l'oscilloscope sur 5 V. (3) Tourner l'arbre de syntonisation et régler pour la tension maximum. (4) Régler VR601 de manière à lire 4,5 V sur l'oscilloscope.
"	"	—	(1) Tourner l'arbre de syntonisation et lire les points pour lesquels les canaux 2 et 2 sont au même niveau (valeurs maximum et minimum). (2) Si les tensions lues ne correspondent pas aux valeurs indiquées ci-dessous, régler en suivant les instructions de l'étape "1". Tension la plus élevée... Plus de 3,6 V Tension la plus basse... Moins de 1,4 V

## ■ ALIGNEMENT DE FREQUENCE INTERMEDIAIRE (IF) FM ET AM

BANDE	CHAMP DE BALAYAGE IF		REGLAGE	OBSERVATIONS
	SORTIE	ENTREE		
ALIGNEMENT IF sur FM				
FM	▼ ...(+)	③ ...(+) ④ ...(-)	T <sub>2</sub> (1 <sup>ère</sup> IFT) T <sub>3</sub> (2 <sup>ème</sup> IFT)	Régler pour une sortie maximum. (Voir fig. 26.)
	▼ ...(+)	③ ...(+) ④ ...(-)	T <sub>9</sub> (3 <sup>ème</sup> IFT)	Régler pour une sortie maximum. (Voir fig. 27.)
ALIGNEMENT IF sur AM				
OM	Faire une boucle de plusieurs tours de fil et émettre le signal dans la brouille du récepteur.	▼ ...(+) ⑨ ...(-)	T <sub>5</sub> (1 <sup>ère</sup> IFT) T <sub>10</sub> (2 <sup>ème</sup> IFT)	Régler pour une sortie maximum.
	"	"	T4	Régler pour une sortie maximum.

Remarque: Vérifier que la fréquence centrale ne dévie pas trop lorsqu'on change la position de l'interrupteur de largeur de bande.

## ■ ALIGNEMENT BFO

BANDE	COMPTEUR DE FREQUENCE	REGLAGE	OBSERVATIONS
OC	▼ ...(+) ⑨ ...(-)	CT8	(1) Placer l'interrupteur de mode AM sur la position "USB". (2) Régler CT8 de manière que le compteur de fréquence lise la valeur 451,5 ± 0,3 kHz.
	▼ ...(+) ⑨ ...(-)	CT9	(1) Placer l'interrupteur de mode AM sur la position "LSB". (2) Régler CT9 de manière que le compteur de fréquence lise la valeur 448,5 ± 0,3 kHz.

# RF-B600LBS FRANCAIS

## FICHE TECHNIQUE

Section FM		Section OC	
Plage de fréquence: 87.5 ~ 108 MHz		Type: Superhétérodyne double avec synthétiseur à verrouillage de phase	
Fréquence intermédiaire: 10.7 MHz		Plage de fréquence: 1,6110 ~ 29,9999 MHz (186 ~ 10 m)	
Sensibilité:	2.5µV/75Ω (-3 dB Seuil de sensibilité)	Fréquence intermédiaire: 1ère FI 39.9 ~ 40.0 MHz	2ème FI 450 kHz
Taux d'interférence d'image:	30 dB (à 98 MHz)	Sensibilité (Modulation 400 Hz, 30% pour 50 mW):	S/N 6 dB; 1.2µV (50Ω) (à 6 MHz) S/N 26 dB; 10µV (50Ω) (à 6 MHz)
Sélectivité deux signaux:	70 dB ( $\pm$ 400 kHz)	Sélectivité:	WIDE (large); $\pm$ 3.5 kHz (-6 dB) $\pm$ 7 kHz (-60 dB) NARROW; $\pm$ 1.5 kHz (-6 dB) (étroite) $\pm$ 4 kHz (-60 dB)
Taux d'interférence d'image:	35 dB (à 280 kHz)	Taux d'interférence d'image:	50 dB (à 6 MHz)
Taux d'interférence d'image: 35 dB (à 280 kHz)		Stabilité de fréquence:	50 Hz pendant 60 minutes après période de chauffage de l'appareil
Taux d'interférence d'image: 40 dB (à 1,000 kHz)		Données générales Haut-parleur:	haut-parleur dynamique 9cm à aimant fixe
Taux d'interférence d'image: 40 dB (à 1,000 kHz)		Puissance de sortie:	2W RMS (max.)
Taux d'interférence d'image: 40 dB (à 1,000 kHz)		Alimentation électrique:	CA 110 ~ 115/115 ~ 127/200 ~ 220/230 ~ 250V, 50/60 Hz CC 12V (8 x UM-1, taille "D") 4.5V (3 x UM-3, "AA")... Alimentation d'appoint pour mémoire.
Taux d'interférence d'image: 40 dB (à 1,000 kHz)		Consommation:	Batteries pour auto: avec adaptateur RP-952 auto en option
Taux d'interférence d'image: 40 dB (à 1,000 kHz)		Prises jacks:	12W Entrée CC (13.2 V) Entrée CA Attente (3.5φ) Sortie enregist (3.5φ), 2.5kΩ fiche DIN à 5 broches Sortie écouteur/Sortie haut-parleur indépendant (3.5φ), 8Ω Sortie casque (6φ), 8Ω
Taux d'interférence d'image: 40 dB (à 1,000 kHz)		Antenna extérieures:	GO/PO/OC Antenna (Connecteur de type M) (50 ~ 70Ω) FM Antenne (75Ω) OC Antenne GO/PO/OC Antenne (faible impédance)
Taux d'interférence d'image: 40 dB (à 1,000 kHz)		Dimensions: (L x H x P)	376 x 122 x 291
Taux d'interférence d'image: 40 dB (à 1,000 kHz)		Poids:	4.6 kg sans les piles
Les spécifications présentées se réservent des changements sans préavis.			

## ALIGNEMENTS

### INSTRUCTIONS D'ALIGNEMENT

REGLAGE DES COMMANDES ET PREPARATION	
<b>Remarques:</b>	
1. Placer l'interrupteur de marche.	9. Placer l'interrupteur d'affichage sur la position de marche.
2. Placer l'interrupteur "SW ANT" (antenne PO) sur la position "LOW IMP" (impédance basse).	10. Placer l'interrupteur de verrouillage de syntonisation sur la position d'arrêt.
3. Placer la commande de gain RF AM sur la position "DX".	11. Placer le sélecteur de syntonisation automatique dans la zone "SW" (PO) sur la position "MANUAL" (manuel).
4. Régler la commande de volume au maximum.	12. Entrer en mémoire les fréquences suivantes:
5. Régler les commandes des basses et des aigus sur "0".	Canal 1...5,050 MHz Canal 6...550 kHz
6. Placer l'interrupteur "AM ANT" (antenne AM) sur la position d'arrêt.	Canal 2...150 kHz Canal 7...1,500 kHz
7. Placer l'interrupteur de largeur de bande sur la position "WIDE" (large).	Canal 3...420 kHz Canal 8...90,0 MHz
8. Placer l'interrupteur d'indicateur sur la position "TUNING/SIGNAL" (syntonisation/signal).	Canal 4...155 kHz Canal 9...106,0 MHz
Canal 5...405 kHz	

### APPAREILS NECESSAIRES

- 1. Compteur de fréquence.
- 2. Oscilloscope (à double trace).
- 3. Voltmètre RF.
- 4. Voltmètre digital CC.
- 5. Ampèremètre.
- 6. Générateur de signal.

### ALIGNEMENT DU BLOC D'ALIMENTATION

Remarque: Pour la mise en place des diodes (D601, 602) et des transistors (Q601, 602), se reporter à la figure 24.

OSCILLOSCOPE	REGLAGE	OBSERVATIONS	
		Canal 1	Canal 2
CS24 ①...(+) ④, ⑤...(-)	CS24 ②...(+) ④, ⑤...(-)	D601, Q601	(1) Régler l'oscilloscope sur le canal 2. (2) Appliquer un signal 5 V CC et régler l'oscilloscope sur 5 V. (3) Tourner l'arbre de syntonisation et lire la tension la plus basse et la tension la plus élevée. (4) Si les tensions ne peuvent pas être réglées aux valeurs suivantes, régler l'espace entre D601 et Q601. Tension la plus élevée... Plus de 4,0 V Tension la plus basse... Moins de 0,9 V Lorsque la tension la plus élevée ne correspond pas à la valeur indiquée ci-dessus, réduire l'espace entre D601 et Q601. Lorsque la tension la plus basse ne correspond pas à la valeur indiquée ci-dessus, augmenter l'espace entre D601 et Q601.
"	"	VR601	(1) Régler l'oscilloscope sur le canal 1. (2) Appliquer un signal d'entrée de 5 V CC et régler l'oscilloscope sur 5 V. (3) Tourner l'arbre de syntonisation et régler pour la tension maximum. (4) Régler VR601 de manière à lire 4,5 V sur l'oscilloscope.
"	"	—	(1) Tourner l'arbre de syntonisation et lire les points pour lesquels les canaux 2 et 2 sont au même niveau (valeur maximum et minimum). (2) Si les tensions lues ne correspondent pas aux valeurs ci-dessous, régler en suivant les instructions de l'étape "1". Tension la plus élevée... Plus de 3,6 V Tension la plus basse... Moins de 1,4 V

■ ALIGNEMENT PO VCO ET FM VCO, 2eme INFUSIBLE, OSC 4,5 MHz, 35,6636 MHz

BANDE	REGLAGE D'AFFICHAGE	VOLTMETRE DIGITAL CC	VOLTMETRE RF	COMTEUR DE FREQUENCE	REGLAGE	OBSERVATIONS
ALIGNEMENT D'OSCILLATEUR 4,5 MHz						
OC	5,000 MHz	—	—	▼...(+) ▼...(-)	CT301	Régler CT301 de manière à lire sur le compteur de fréquence la valeur 4,5000 MHz ± 20 Hz
REGLAGE DU NIVEAU DE L'OSCILLATEUR 35,6636 MHz						
OC	2,000 MHz	—	▼...(+) ▼...(-)	—	T306	Régler T306 sur un niveau qui soit de 0,5 dB inférieur à la valeur pour laquelle la valeur de crête apparaît sur le voltmètre RF.
ALIGNEMENT DE 2eme INFUSIBLE						
OC	5,05 MHz	—	▼...(+) ▼...(-)	—	T303 ~ 305, T307	Régler T305, 304, 303 et 307 de manière à obtenir une valeur de lecture maximum sur le voltmètre RF.
ALIGNEMENT DE FREQUENCE D'OSCILLATEUR 35,6636 MHz						
OC	5,000 MHz	—	—	▼...(+) ▼...(-)	CT306	Régler CT306 de manière à lire sur le compteur de fréquence la valeur 39.550 MHz ± 300 Hz
ALIGNEMENT PO VCO						
OC	29,9 MHz	▼...(+) ▼...(-)	—	—	CT304	Régler CT304 de manière à lire la valeur 8,0 V ± 0,2 sur le voltmètre digital CC.
	16.8 MHz	▼...(+) ▼...(-)	—	—	CT303	Régler CT303 de manière à lire la valeur 8,2 V ± 0,2 V sur le voltmètre digital CC.
	5.0 MHz	▼...(+) ▼...(-)	—	—	CT305	Régler CT305 de manière à lire la valeur 9,0 V ± 0,2 V sur le voltmètre digital CC.
ALIGNEMENT FM VCO						
FM	87.5 MHz	▼...(+) ▼...(-)	—	—	L303	Régler L303 de manière à lire la valeur 1,0 V ± 0,1 V sur le voltmètre digital CC.
	108 MHz	▼...(+) ▼...(-)	—	—	CT302	Régler CT302 de manière à lire la valeur 8,0 V ± 0,2 V sur le voltmètre digital CC.

■ ALIGNEMENT DE TENSION VCP, RF GO/PO, RF FM et ALIGNEMENT DE COMPTEURS

BANDE	GENERATEUR DE SIGNAL BRANCHEMENT	FREQUENCE	REGLAGE D'AFFICHAGE	VOLTMETRE DIGITAL CC	REGLAGE	OBSERVATIONS
ALIGNEMENT DE TENSION VCP						
GO	—	—	150 kHz (Canal 2)	▼...(+) ▼...(-)	L9	Régler L9 de manière à lire la valeur 1.1V ± 0.05V sur le voltmètre digital CC.
	—	—	420 kHz (Canal 3)	"	CT6	Régler CT6 de manière à lire la valeur 7 V ± 0.2 V sur le voltmètre digital CC.
OM	—	—	520 kHz	"	L8	Régler L8 de manière à lire la valeur 1 V ± 0.05 V sur le voltmètre digital CC.
	—	—	1,610 kHz	"	CT2	Régler CT2 de manière à lire la valeur 8.2 V ± 0.2 V sur le voltmètre digital C.C.
ALIGNEMENT HF sur GO/OM						
GO	Faire une boucle de plusieurs tours de fil et émettre le signal dans la boucle du récepteur.	155 kHz	155 kHz (Canal 4)	—	L7-1	Régler pour une sortie maximum.
	"	405 kHz	405 kHz (Canal 5)	—	CT3	Régler pour une sortie maximum.
OM	"	550 kHz	550 kHz (Canal 6)	—	L7-2	Régler pour une sortie maximum.
	"	1,500 kHz	1,500 kHz (Canal 7)	—	CT5	Régler pour une sortie maximum.
ALIGNEMENT HF sur FM						
FM	Brancher au point ▼ via une antenne fictive FM. Côte négatif au point ▲.	90 MHz	90 MHz (Canal 8)	—	L27	Régler pour une sortie maximum.
		106 MHz	106 MHz (Canal 9)	—	CT1	Régler pour une sortie maximum.
ALIGNEMENT DE COMTEURS						
FM	"	90 MHz (100 dB)	90 MHz (Canal 8)	—	VR1	Régler VR1 de sorte que le compteur de syntonisation indique une valeur supérieure à "8".

■ ALIGNEMENT DE GAIN ET DE CAPTURE D'IMAGE IF PO

BANDE	GENERATEUR DE SIGNAL BRANCHEMENT	FREQUENCE	REGLAGE D'AFFICHAGE	REGLAGE	OBSERVATIONS
ALIGNEMENT IF sur OC					
OC	▼...(+) ▼...(-)	5.050 MHz	5.050 MHz (Canal 1)	T7,8,11 ~ 14	Régler pour une sortie maximum.
ALIGNEMENT DE CAPTURE D'IMAGE PO					
OC	▼...(+) ▼...(-)	5.950 MHz	5.050 MHz (Canal 1)	CT7	Régler pour une sortie minimum.
ALIGNEMENT DE GAIN PO					
OC	"	5.050 MHz (18 dB)	5.050 MHz (Canal 1)	VR2	Régler VR2 de sorte que le compteur indique une valeur "9".

## ■ ALIGNEMENT DE TENSION VCP, RF GO/PO, RF FM et ALIGNEMENT DE COMPTEURS

S ièr e 5000  veau qui ir à la a valeur sur le  et 307 une imum  ère à e 1.550  ère à ,2  ère à ,2 V sur ). ère à ,2 V I CC.  e à lire sur le  ère à 2 V I CC.  ue ne	BANDE	GENERATEUR DE SIGNAL		REGLAGE D'AFFICHAGE	VOLTMETRE DIGITAL CC	REGLAGE	OBSERVATIONS
		BRANCHEMENT	FREQUENCE				
<b>ALIGNEMENT DE TENSION VCP</b>							
ièr e 5000  veau qui ir à la a valeur sur le  et 307 une imum  ère à e 1.550  ère à ,2  ère à ,2 V sur ). ère à ,2 V I CC.  e à lire sur le  ère à 2 V I CC.  ue ne	GO	—	—	150 kHz (Canal 2)	▼...(+) ▼...(-)	L9	Régler L9 de manière à lire la valeur $1.1V \pm 0.05V$ sur le voltmètre digital CC.
		—	—	420 kHz (Canal 3)	"	CT6	Régler CT6 de manière à lire la valeur $7V \pm 0.2V$ sur le voltmètre digital CC.
ièr e 5000  veau qui ir à la a valeur sur le  et 307 une imum  ère à e 1.550  ère à ,2  ère à ,2 V sur ). ère à ,2 V I CC.  e à lire sur le  ère à 2 V I CC.  ue ne	OM	—	—	520 kHz	"	L8	Régler L8 de manière à lire la valeur $1V \pm 0.05V$ sur le voltmètre digital CC.
		—	—	1,610 kHz	"	CT2	Régler CT2 de manière à lire la valeur $8.2V \pm 0.2V$ sur le voltmètre digital C.C.
<b>ALIGNEMENT HF sur GO/OM</b>							
ièr e 5000  veau qui ir à la a valeur sur le  et 307 une imum  ère à e 1.550  ère à ,2  ère à ,2 V sur ). ère à ,2 V I CC.  e à lire sur le  ère à 2 V I CC.  ue ne	GO	Faire une boucle de plusieurs tours de fil et émettre le signal dans la boucle du récepteur.	155 kHz	155 kHz (Canal 4)	—	L7-1	Régler pour une sortie maximum.
		"	405 kHz	405 kHz (Canal 5)	—	CT3	Régler pour une sortie maximum.
ièr e 5000  veau qui ir à la a valeur sur le  et 307 une imum  ère à e 1.550  ère à ,2  ère à ,2 V sur ). ère à ,2 V I CC.  e à lire sur le  ère à 2 V I CC.  ue ne	OM	"	550 kHz	550 kHz (Canal 6)	—	L7-2	Régler pour une sortie maximum.
		"	1,500 kHz	1,500 kHz (Canal 7)	—	CT5	Régler pour une sortie maximum.
<b>ALIGNEMENT HF sur FM</b>							
ièr e 5000  veau qui ir à la a valeur sur le  et 307 une imum  ère à e 1.550  ère à ,2  ère à ,2 V sur ). ère à ,2 V I CC.  e à lire sur le  ère à 2 V I CC.  ue ne	FM	Brancher au point ▼ via une antenne fictive FM. Côte négatif au point ▽.	90 MHz	90 MHz (Canal 8)	—	L27	Régler pour une sortie maximum.
			106 MHz	106 MHz (Canal 9)	—	CT1	Régler pour une sortie maximum.
<b>ALIGNEMENT DE COMPTEURS</b>							
ièr e 5000  veau qui ir à la a valeur sur le  et 307 une imum  ère à e 1.550  ère à ,2  ère à ,2 V sur ). ère à ,2 V I CC.  e à lire sur le  ère à 2 V I CC.  ue ne	FM	"	90 MHz (100 dB)	90 MHz (Canal 8)	—	VR1	Régler VR1 de sorte que le compteur de syntonisation indique une valeur supérieure à "8".

## SYMBOLES UTILISES DANS LE SCHEMA

### Remarques:

1. S1: Sélecteur d'antenne en position "HIGH IMP".  
2. S2-1, S2-2: Sélecteur de mode AM en position "AM".  
S2-1 (4...AM, 3...USB, 2...LSB)  
S2-2 (3...AM, 2...USB, 1...LSB)

3. S3: Sélecteur de largeur de bande en position "WIDE".  
(3...WIDE, 2...NARROW)

4. S4: Interrupteur de radio en position "OFF".  
5. S5: Interrupteur de limitation de bruit automatique en AM en position "OFF".  
(2...ON, 3...OFF)

6. S701: Sélecteur C.A./C.C. en position "DC IN".  
7. S702: Sélecteur de tension.  
8. VR1: Régulateur de tension de réglage du niveau des indicateurs.

VR2: Régulateur de tension de gain de OC.

9. La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.  
< >...Position FM, ( )...Position GO/OM,  
[ ]...Position OC

10. Courant des piles: Pas de signal ..... 200 mA (OM)  
Sortie maximum ..... 680 mA (OC)

11. Remarque importante concernant la sécurité  
Les pièces marquées  $\Delta$  ont des caractéristiques spéciales, importantes pour la sécurité.  
Lors du remplacement d'une de ces pièces, n'utiliser que les pièces spécifiées par le fabricant.

12. Lorsqu'un remplacement de diode est nécessaire (D3, D4 ou D7), remplacer simultanément les trois diodes D3, D4, et D7.

### Remarques:

1. S301: Interrupteur de verrouillage d'accord en position "OFF".  
(5...ON, 6...OFF)

2. S303-1, S303-2: Sélecteur d'indicateur en position "TUNING/SIGNAL".  
(4, 3...TUNING/SIGNAL, 5, 2...BATT)

3. S304: Sélecteur de vitesse d'accord rapide/lente en position "SLOW"). 4...SLOW, 5...FAST)

4. S305 ~ S307: Sélecteur d'accord automatique en zone OC en position "MANUAL".  
(S305...MANUAL, S306...SCAN, S307...SEEK)

5. S308: Interrupteur pour la lampe de l'indicateur en position "OFF".  
Commutateur d'affichage en position "OFF".

6. S309: Sélecteur de GO.

Sélecteur de OM.

Sélecteur de OC.

Sélecteur de FM.

Sélecteur de mémoire.

Sélecteur de direct.

Sélecteur d'introduction.

Sélecteur d'arrêt.

Sélecteur de balayage de mémoire.

Sélecteur de direct. (8)

Sélecteur de direct. (9).

Sélecteur de up.

Sélecteur de down.

Sélecteur de direct. (4)

Sélecteur de direct. (5)

Sélecteur de direct. (6)

Sélecteur de direct. (7)

Sélecteur de direct. (0)

Sélecteur de direct. (1)

Sélecteur de direct. (2)

Sélecteur de direct. (3)

28. VR301, 302: Réglage de grave/d'aigu.

Réglage du volume.

VR303: Régulateur de tension de réglage de gain RF.

VR601: Réglage du bloc de syntonisation.

29. La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.  
< >...Position FM, ( )...Position GO/OM,  
[ ]...Position OC

### Affichage

FM...88.1 MHz, GO...330 kHz, OM...1,000 kHz,

OC...10 MHz